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BENGAL ECONOMIC JOURNAL

The Journal of the Bengal Economic Association

Edited by
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THE BENGAL ECONOMIC JOURNAL.

APRIL 1916.

EDITORIAL.

It is generally admitted that Bengal stands in need of an association and of a journal which should collect and publish information on economic matters. Indeed, if any apology or explanation is wanted, it is not needed so much for the present movement in that direction as for its late and tardy appearance. The economic past as well as the present of Bengal offer a vast field for research and exposition. To contemplate the economic greatness of our province, there is no need, however, to go back to the days of yore when its fame found echoes in the verse of mighty poets from Vyasa to Hafiz and Milton. In our own day, thanks to her agricultural and manufacturing resources, Bengal keeps still in the van of the economic progress of India; and if there could be infused into her sons a little more of the spirit of commercial and industrial enterprise, there could be no comparison between the prosperity and wealth of Bengal and that of other parts of India. Well might Michael Dutt exclaim: "O Bengal, there are numerous and varied gems in thy treasury; only we, thy children, neglect these thy riches!" Naturally, the province abounds in economic problems of the greatest interest and importance. Her land revenue problems and the peculiarities of her land tenure have in themselves sufficed to create a literature of no small magnitude. Her stores of economic history are vast, and the extent and richness of her records are unparalleled in India, though at present they are a sealed book to the general

public. Several of her industries are of world-wide importance and have already long histories of their own, not untouched by the colours of romance; but the future of these industries seems to be tinged with colours even more roseate.

The ambition of the economist might well aspire to solve these numerous and important problems and to rear a lofty structure of science out of material so abundant. But the magnitude and intricacy of the task suffice to impress on him the lesson of humility. For success in such a great work co-operation is necessary—co-operation between the economist, the man of business and the official. Fortunately there are few places where efficient co-operation could be so well secured as in Calcutta. Though founded only a couple of centuries ago, Calcutta is already an old city in the annals of literature and is rich in literary traditions. Her official and commercial classes have been always noted for their partiality to literary work. We propose to utilize this genius of the spot. What was required and what is now supplied is an association to secure co-operation in the field of economics, with a journal to garner the fruits of such labours.

While economics may justly claim to be a science it is at the same time a practical science. Division of labour requires that those practically engaged in the handling of economic affairs shall be primarily concerned with the task of seeing that the machinery of industry or commerce works without asking why it works or attempting to trace the causal connection between the functioning of different parts of the machine. The students of economic science, on the other hand, specialize in just this task of finding out the " how and the why." But it is obvious that there should be close co-operation between the practical man and the theoretical man, if economic science is to be in close touch with reality and not a mere collection of barren theories.

It is in no narrow spirit that the study of the economic problems of Bengal is here undertaken. Our objects may be summarised as " the encouragement of the study, practical and theoretical, of the problems that bear on the well-being of India and in particular of

Bengal." The application of economic theory to Indian conditions is a task requiring great judgment. Just because the East is so profoundly different from the West, for the very reason that India is at such a different stage of economic growth from that reached in Europe, it is plain that India's problems are in many cases new problems and cannot be solved by a simple and uncritical imitation of the methods and policies of other countries. Economic science is a comparatively new study even in Europe. However well founded may be the theorems and generalizations of its abstract analysis, they need to be applied with the utmost discrimination to the changing conditions of concrete affairs. In India there is not only a need for careful modification of those theorems and generalizations, but above all for a thorough survey of the concrete conditions to which they are to be applied.

It follows from this that local "spade work" is one of the most important tasks—perhaps the most important task—of the economist in India. The material for a better knowledge of Indian economic problems lies, however, for the most part outside the sphere of written documents. It consists of the multitude of facts that go to make up the lives of the different classes of the community in so far as they bear upon economic activities. These facts may often appear small and commonplace in themselves, but they are the indispensable material for the solution of great problems. In a great country such as India, with its variety of physical conditions and social and economic customs, broad and vague generalizations can only give place to accurate scientific statement as the result of a careful survey, district by district, and a subsequent comparison of result. Such a survey does indeed exist in a very elementary form in the Gazetteers prepared by Government. But they need to be largely supplemented. It is to be hoped that this journal might contribute both to the discussion of the methods of economic and social research and to their application to Indian conditions.

Every year the Government departments are sending forth an enormous number of volumes full of all kinds of statistics and information of the highest value. But this priceless material has yet to

be digested and worked upon. It is one aim of the present journal to digest and make readily available some of this mass of information. Again, annually, we hope to devote some pages to a study of the Indian economic legislation of each year.

The journal will also contain reviews of notices of current economic literature by means of which students may be kept in touch with the new publications on their subject.

Such are some of the main features of our programme. We know that it is an ambitious programme, for it is no light matter to take up the task of economic study and guidance on such a scale. We can only assure our readers that we fully appreciate the many difficulties in our way, and that had we not been assured of the help and co-operation of many able supporters and contributors we should never have undertaken our arduous task.

BENGAL ECONOMIC ASSOCIATION.

INAUGURAL MEETING.

A MEETING to inaugurate the Bengal Economic Association was held at the Dalhousie Institute on 9th February, 1916. His Excellency Lord Carmichael, the first President of this Association, presided.

In opening the proceedings His Excellency said :—

"We are met here this evening to inaugurate the Bengal Economic Association. You have a leaflet in your hands which sets forth shortly the objects of the Association and gives the names of its first President and of those who will be proposed as its first Council. Your presence is in itself, I think, sufficient proof that the society will arouse interest and will meet a need. Professor Hamilton, in an article which you probably read in the newspapers and which I think you have, briefly summarized the objects of the Association as 'the encouragement of the study, both practical and theoretical, of the problems that bear upon the wellbeing of India, and in particular of Bengal.'

"Every day people realize more that economic problems must receive greater attention in India from those who are interested in her welfare. Anyone who thinks about such things at all feels this. That the Government of India feels it we may conclude from the fact that it has founded the three University Chairs of Political Economy to which Professor Hamilton has referred. It is nothing to be surprised at if, with the spread of Western knowledge here, a desire has sprung up to adopt Western methods at once or to apply Western theories to India. If theories are sound they are sound everywhere, but they must be applied to facts differently, according as facts differ in different places, and it needs very little experience to convince us that the facts in India

are very different from those in Europe or in America where, for the most part, economists have made their observations. Not only, as Professor Hamilton points out, is the East in a different stage of economic progress to that in which the West was when the economic theories were worked out and applied there, but there are factors here which never did exist in the West and some of which are among the most powerful forces which influence conduct. This being so generalizations founded on Western experience may not always be a safe guide here, and certainly cannot be so except to persons who are thoroughly familiar with all the relevant facts both here and in the countries where the generalizations were formed. One of the aims of this Association will be to make a thorough survey of concrete conditions in India. I can vouch from my own experience for the difficulty which confronts anyone who tries to obtain accurate knowledge of economic conditions here, knowledge such as must be in the possession of anyone who hopes to ameliorate the condition of India. I think we must all admit that the condition of India requires much amelioration, even if only in the interests of those who at present make some considerable profit for themselves here.

"I, perhaps naturally, look at things from the point of view of the Government and of the British administration. From that point of view I feel most strongly that much is wanted to help us in guiding development, and I long for a more general grasping of economic facts, a knowledge of which alone can help us to meet some of the most crying needs of this country. British administration has brought peace to a land which suffered cruelly from warfare, and has greatly increased the sense of security of person and of property; but, after all, such work can only be compared to the clearing of the ground for the foundations of a building. Without peace and security the advance of a people is impossible, but if peace and security alone were the ultimate objects of British administration in India we should have little claim to gratitude from future generations of Indians. The work of assisting to build up the political and economic prosperity of the country lies before us, and it is impossible to hope for rapid success, or indeed for real success of any kind,

unless we study the facts peculiar to the country. The work done by early British administrators in this direction was good. I would instance the work of men like Buchanan-Hamilton, both in Hindusthan and in South India, Kirpatrick in Nepâl, and a host of others. Lord Mayo was fully alive to the necessity for accurate statistics and it was he who in 1869 chose the late Sir William Wilson Hunter to organize a statistical survey of the Indian Empire. Enquiries into different subjects have been carried on at various times under the orders of the Government of India and much valuable information has been thus obtained. But it needs to be brought together and duly arranged and, as Professor Hamilton has pointed out, far more information is yet needed about the multitude of facts which go to make up the lives of the different classes of the community in so far as they bear on economic activities.

"A good many University students are now devoting their time to economics. These may, I hope, find a welcome field for their labour in the investigation of these facts. There is an ever increasing body of men who give some—often a large—part of their scanty leisure to the study of Indian economics. The Association will by its library and in its journal provide these men not only with new material but also, in a properly classified form, with such published material as is available in books and Government reports. In this connection I have been asked to tell you that the Committee of the Buchan Memorial Fund have asked if they may present the Association with a small library of books on Co-operation. Those of you who know of Mr. Buchan's work as Registrar of Co-operative Societies in Bengal will appreciate this wish of the Memorial Fund Committee and I feel sure that I may, on behalf of the Association, gratefully accept the offer. The Association will succeed in proportion as it is able to bring those who specialize in economic studies, and who form theories as the result of their studies, into touch with those whose business it is to make industry and commerce efficient and who may get practical help by studying the theories which others have worked out. It was Colbert, I think, who first said, or at any rate who first wrote, that the most precious thing which a State possesses is 'the

labour of its people. That precious possession we in Bengal have in plenty and we shall fail in our duty if we do not do our best, whether we be officials or non-officials, to make good use of it. As Governor I, perhaps, as fully as anyone, realize how much our success in practise must depend on the extent and accuracy of our knowledge, and that is why I, as Governor, am glad to be the first President of an Association which aims at adding to our knowledge and at making it available to practical men."

Professor C. J. Hamilton in putting forward the objects for which the Association was being started and the means by which it was hoped to secure the welfare of India, said :—

The Association which we are here to inaugurate, and of which Your Excellency has been so kind as to be the first President, is intended to stimulate interest in, and to promote the advancement of, economic science in India. There is little need to lay stress on the practical importance of this study. It is in the first place of the utmost importance to the Government. The greatest change in policy that has occurred in the last two decades in Great Britain has been the final abandonment of the old theory that the sphere of State action should be limited to the maintenance of peace, order and the fulfilment of contracts. Since 1906 Parliament has been occupied with a succession of important measures having as their object the improvement of the economic condition of the people. The characteristic feature of these measures is the acceptance by the State of the primary responsibilities of finance and administration.

It is a safe prophecy that one of the certain consequences of the present war will be the extension of the sphere of State action in economic affairs in Great Britain. The point that I would emphasize is that every one of these departures in respect of economic policy involves issues in which it is of the highest importance to decide different economic problems correctly. In India the Government has, speaking broadly, hitherto confined itself more strictly within the limits of action set by the principles of *laissez faire*. It is inevitable, however, that here, as in other countries, the State should extend its action for the purpose of stimulating and directing

the economic development of the country. But while one may subscribe to this general principle any attempt to give it effect must at once raise questions that can only be solved by the use of accurate economic analysis applied to a thorough knowledge of concrete conditions.

If the progress of economic science in India is desirable in the interests of the Government, it is none the less so in the interests of the governed. The ambitions that fill the minds of the younger generation of Indians may almost all be said to involve, directly or indirectly, hopes that depend for fulfilment on economic considerations. Even in India public opinion is a powerful influence. If the ambitions of the Indian people are to be realized, and realized in part through the instrumentality of public opinion, nothing is more necessary to the ultimate wellbeing of the country than that these ambitions and this public opinion should be in harmony with facts. Economic heresies are extraordinarily tenacious of life. Moreover, like many other heresies, they are sometimes found to contain a measure of truth. It is only by examining them in a thorough and scientific way that the heresy may be made harmless or the truth freely admitted. If sound economic knowledge is thus a condition of well directed activity on the part of the State and of a healthy and hopeful exercise of public opinion, by what means can this Association advance such knowledge? In the first place it can promote local research. In a speech which Sir Theodore Morrison made when he was last in India he laid stress on the enormous field at present unworked in this direction. Little is as yet known or at least available in scientific form. I would suggest as a very good illustration of the problems which can only be solved by a patient comparative study of local conditions the question of the connection between the various forms of land tenure and the economic cultivation of the soil. It is my intention to enlist the help of University students, of junior civilians, and others who are resident in the mofussil, for the purpose of undertaking careful statistical surveys of different districts. These studies may then be compared and the result published in the *Bengal Economic Journal.* Another task

that lies before the Association is to get those with the requisite expert and practical knowledge to make a study of the morphology of Indian industry and commerce. A valuable paper was recently read before the Society of Arts by Mr. C. C. McLeod on the Indian jute industry. I hope in the future that leaders of commerce or industry will prepare equally valuable papers on the industries or the commercial organization of Bengal and deliver them before meetings of this Association. I would emphasize the good that, in this connection, can be done by the Association in bringing together the theoretical economist and the practical business man. The latter knows the facts. He is also, probably, the best judge of the practical value of ideas. But he can obtain from the theorist suggestions as to what things within his knowledge are of most importance in relation to other things that are not within his knowledge. I will now turn to the way in which I hope the Association will help the students of economics, of whom there are a growing number at the University and the various colleges. There are within the area administered by the Calcutta University, some twenty colleges in which a Professor of Economics is in charge of a body of students. But there is no means by which either the professor or his students may be kept in touch with the newest books, or the various reports of Government upon economic subjects. I hope the journal of the Association will find its way into every college library and supply this need. Again for students of Indian economics, whether students of colleges or not, there is at present no satisfactory library. The Association hopes to build up such a library to be used for reference by its members. If I have shown that there is much that the Association can do, may I also say that the measure of its usefulness depends on the amount of energy it can inspire and on the amount of financial support it can win.

The Hon'ble Mr. F. H. Stewart moved that the meeting approved of the objects which had been placed before them, and that by this resolution they formed the Bengal Economic Association for the purpose of carrying out those objects. He said that although he was not very conversant with the subject of economics it was a very

engrossing and valuable branch of study which was daily growing of greater importance. He could not think of any better mode of fostering and encouraging the welfare of the country than by inaugurating this Association.

Sir Rajendranath Mookerjee in seconding the resolution observed: "I have much pleasure in seconding the resolution moved by the Hon'ble Mr. Stewart. We are just now at the beginning of an Industrial evolution and the steady development of our industries must be guided by economic principles. The inauguration of the Bengal Economic Association could not have taken place at a more opportune moment and under the able guidance of Professor Hamilton such an Institution will impart the necessary economic knowledge to enable our young men to be successful in their efforts to develop our industries. I have pleasure in formally seconding the resolution founding the Bengal Economic Association." The resolution was carried by acclamation.

On the motion of Professor Hamilton the following gentlemen were elected to form the first council of the Bengal Economic Association:—

President: His Excellency Lord Carmichael. Council: Maharajadhiraj Bahadur of Burdwan, the Hon'ble Mr. A. Birkmyre, the Hon'ble Mr. E. H. Bray, Mr. Abdy Collins, Professor J. C. Coyajee, Mr. K. L. Datta, Professor C. J. Hamilton, Mr. H. Harris, Mr. W. J. K. Hegarty, Professor E. A. Horne, the Hon'ble Raja Reshee Case Law, Mr. R. D. Mehta, C.I.E., Rai J. M. Mitra, Bahadur, Sir Rajendranath Mookerjee, the Hon'ble Sir Ashutosh Mookerjee, Kt., C.S.I., the Hon'ble Dr. D. P. Sarvadhikary, Professor S. C. Ray, Mr. G. F. Shirras, the Hon'ble Mr. F. H. Stewart, Mr. N. H. Y. Warren and Professor T. T. Williams.

THE EFFECT OF POVERTY ON THE PUBLIC HEALTH IN INDIA.

MANY years ago Dr. Farr was able to prove after eliminating disturbing causes by an instructive statistical device, that the mortality in London during the seventeenth and eighteenth centuries was eight per cent. greater in years of dear corn than in years of cheap corn. Marshall, remarking on this phenomenon, observes :—

> "In England now want of food is scarcely ever the cause of death; but it is a frequent cause of that general weakening of the system which renders it unable to resist disease."

This view is supported by a considerable amount of evidence which shows that the prevalence of disease and the rate of mortality in England often varies in proportion with economic pressure. For example Mr. Charles Booth, who has carefully studied conditions in London, found that the rates of mortality in 27 districts of the city were generally in the order of their poverty. And Mr. George Haw using overcrowding as an index of poverty, has compiled the following table on the three St. George's parishes (London parishes) :—

	Percentage of Population Overcrowded.	Death-rate per 1,000.
St. George's West	10	13·2
St. George's South	35	23·7
St. George's East	40	26·4

Recently Drs. Newsholme and Stevenson also have worked out the death-rates of 1903 for the population of London by groups, group

one being the poorest, group six the richest (the test of riches and poverty being in this case the proportion of servants kept). Their figures both for the crude and corrected rates are given in the margin. Rowntree's investigations among the working classes in the city of York, point to a similar conclusion, as may be seen from the brief epitome of some of his observations which is given below in the form of a tabular statement :—

Variation of Death-rate with Economic Conditions in London, 1903.

	Crude death-rate per mille.	Corrected death-rate per mille.
Group 1 (poorest) ...	18·4	19·1
,, 2	14·4	15·0
,, 3	14·6	15·3
,, 4	12·1	12·7
,, 5	14·8	15·5
,, 6 (richest) ...	13·0	14·6

Economic Conditions and Mortality among the Working Classes in the City of York.

......	Area No. 1 Poorest class of Workers. Population 6,803.	Area No. 2 Middle class of Workers. Population 9,945.	Area No. 3 Highest class of Workers. Population 5,336.	City of York.
Economic condition.	69 3 per cent. suffering from poverty.	37·0 per cent. suffering from poverty.	None suffering from poverty.	......
Birth-rate per 1,000 of the population ...	39·83	40·32	29·00	30·0
Death-rate per 1,000 of the population ...	27·78	20·71	13·49	18·5
Mortality of children under 5 years of age per 1,000 of all ages living ...	13·96	10 50	6·00	7·37
Death-rate of persons above 5 years of age per 1,000 living ...	13·8	10·2	7·5	11·1
Infantile mortality* per 1,000 births ...	247	184	173	176

* The infantile mortality among the servant-keeping classes of the York population, ascertained for the sake of comparison was found to be only 94 per 1,000 births.

In the case of York City it will be observed that the mortality rate of an area in which nearly 70 per cent. of the population were suffering from poverty was almost exactly double that of another working class area where there was no apparent poverty. The facts recorded above appear to show that in highly civilized countries mortality rates are greatly influenced by economic conditions. Among more primitive peoples the influence of economic conditions upon the public health is still more marked as may be seen from the case of Bombay City which affords a striking example of the close relation discernible in India between economic conditions and mortality. A comparison of the annual death-rates of Bombay from 1872 to 1906 with the range of prices of the principal food grains for the corresponding period gives a remarkable series of correlations, which seem to indicate that in that city deaths tend to increase in number as the price of food advances. To properly interpret a correlation of this kind it is necessary to have some knowledge of the economic life of the people who compose the mass of the population concerned. It is in this connexion that much original investigation is required in India. In the case of Bombay the author attempted some years ago to get together a few facts bearing upon the economic condition of the people. Unfortunately very little information was available and in the limited time at his disposal it was impossible to do very much in the way of original investigation in this direction. But attention may be called to the following facts relating to conditions among the working classes in Bombay City.

Co-efficients of Correlation between Bombay Death-rates and

Price of Rice	+ ·62
,, ,, Bajri	+ ·67
,, ,, Jawar	+ ·75
,, ,, Wheat	+ ·79
Average price of the four food grains ...	+ ·73

Wages.—Among workers in Bombay, mill-hands are usually supposed to be exceeding well off, but according to the *Bombay Gazetteer* the average earnings of workers in the spinning and weaving mills is only Rs. 13 per mensem. Men earn Rs. 14 to Rs. 30 a month, women Rs. 7½ to 9 and children Rs. 5 to 7. The rate of pay of the general labourer varies greatly according to the class of work

performed. Coolies employed in heavy work, loading and unloading ships, coaling vessels, etc., may earn as much as from annas 12 to Re. 1 per day; coolies employed on earthwork earn from 6 to 8 annas for men and from 4 to 7 annas for women; those engaged in carrying parcels, etc., earn about 5 annas a day. Municipal biggaries receive Rs. 11 a month, male sweepers about Rs. 10 or 11 and female sweepers about Rs. 6. Skilled workmen such as masons and carpenters get an average of about Re. 1 per working day; and smiths, fitters and machinemen from Rs. 20 to Rs. 35 per mensem. Grooms and coachmen generally get about Rs. 12 a month and boatmen and laskars from Rs. 12 to Rs. 15. Domestic servants usually receive either Rs. 3 to Rs. 6 a month and their food or Rs. 9 to 12 without food, but better class servants are paid as much as Rs. 20 and upwards a month. Office peons, chowkidars and messengers usually get from Rs. 10 to Rs. 12 a month and their clothes, and railway porters Rs. 15. Street hawkers of fruit and food usually earn from annas 4 a day up to Rs. 20 a month. The pay of the native clerks and shop assistants varies from Rs. 25 to Rs. 50 and among the more highly paid from Rs. 75 to Rs. 120.

Rent.—One of the heaviest items of expenditure in the domestic budget of workers in Bombay is house-rent. About 85 per cent. of the population lives in tenements of only one room and among these a large proportion are forced to share their quarters with others. At the Census in 1901, 284,244 people or more than one-third of the total population were found to be sharing rooms with from 5 to 20 or more other persons and 434,406 lived in single rooms occupied by from 1 to 5 people. The cause of this extraordinary overcrowding is the high rent, which makes it impossible for a large proportion of the wage earning classes to hire a room to themselves; and the majority of these people live huddled together in large buildings composed of one-roomed tenements which are known in Bombay as *chawls*. The average rent of a room in a *chawl* is Rs. 5 a month, but in the more crowded portion of the City such as B. and C. Wards it rises as high as Rs. 6-8 per mensem. In the northern part of the island it averages from Rs. 3 to Rs. 4-4 per mensem.

Comparative Statement showing Monthly Rent of Single Rooms in Chawls.*

	Ward.	1898-1899 Average.	1908-1909 Average.
		Rs.	Rs.
1. Colaba, Fort and Esplanade	A.	3-4	5-10
2 Mándvi, Chakla, Umarkhádi and Dongri ...	B.	3-8	6-8
3. Market, Bhuleshwar and Kumbhárwada, etc.	C.	4-8	6-8
4. Girgaum, Wálkeshwar and Mahálaxmi ...	D.	3-4	6-0
5. Mazagaon, Byculla, Kámáthipura & Nágpáda	E.	2-8	4-4
6. Parel, Sewri and Sion	F.	1-10	3-4
7. Máhim and Worli	G.	1-8	3-0

* *Bombay Gazetteer.*

In the *Bombay Gazetteer* it is stated that the rise in rentals since the year 1891 has been ascertained to be not less than 22 per cent. and it has become impossible at present to rent the poorest accommodation suitable for a low-paid clerk and his family, within reasonable distance of the office, at less than Rs. 10 per month. Personal observation has shown that it is not an uncommon thing to find a family, of which the father is earning only Rs. 50 or Rs. 60 per mensem, paying as much as Rs. 25 per month for a tenement of two rooms and a small kitchen. Frequently a number of men of the same class, perhaps 10 or more, will rent a room in common and share living expenses, which under these conditions will amount to about Rs. 6 per head per month, or perhaps one man and his wife will take in a number of lodgers. As many as 22 such lodgers have been counted asleep on the floor and adjoining verandah of a single-room tenement rented at Rs. 3-8 per month. Pressure of high rents and consequent overcrowding is responsible for the fact that during the greater part of the year many thousands of people may be seen sleeping out of doors.

Food.—In Bombay City the lowest estimate of expenditure on food appears to be Rs. 4-8-0 per mensem for a man and about Rs. 3 to Rs. 3-12 for a woman. The majority of adult working males of the labouring class appear to spend from Rs. 5 to Rs. 7 per mensem on

food and household expenses, excluding clothes. A number of men of the servant class live in the boarding houses, at an inclusive charge of Rs. 10 per mensem. Indian students, nurses, etc., appear to pay an average of about Rs. 13 per mensem for food alone.

The monthly expenditure on food of a family of four, a man, his wife and two small children, was found in one case to be as follows :—

	Rs.	A.	P.
Rent	4	8	0
Tur dâl	1	0	0
Rice	6	0	0
Bájri	3	0	0
Ghee	1	0	0
Condiments	1	0	0
Kerosene	0	3	0
Firewood	1	4	0
Toddy	0	8	0
	18	7	0

The man earned Rs. 10 a month as a peon and his wife made *biddis*.

In another case, a widow with five children (two of whom were working and the rest quite small) consumed in the month : —

	Rs.	A.	P.
½ Phara bájri	2	8	0
2 Pharas rice	7	12	0
1 Paili dal	0	6	0
Firewood, ghee, oil, condiments and miscellaneous expenses	7	8	0
	18	2	0

In another case the monthly budget of a family, consisting of a man, a working youth and a young non-working child, was as follows :—

	Rs.	A.	P.
Rice	7	8	0
Flour	1	8	0
Ghee	1	0	0
Dâl	0	6	0
Oil	0	6	0
Fuel	1	8	0
Kerosene and matches	0	6	0
Salt	0	2	6

In addition the family spent about Re. 1 per month on tobacco, the man and working youth smoking from 8 to 12 *biddis* a day. The barber was paid 4 annas per head each month, or a total of 12 annas. The total expenditure on necessaries, excluding rent and clothes, was about Rs. 14-8 a month. In this case the man explained that as he could not afford to keep his wife in Bombay she remained at home in her father's house. Occasionally her husband sent her Rs. 5, but to do this he had to borrow and was getting deeper in debt. These figures help to explain the appalling overcrowding in Bombay; for it is clear that when the majority of workers have paid for their food and clothes and the few luxuries in which they indulge, such as tobacco and an occasional drink of toddy or liquor, they have little or nothing left; and under these circumstances they cannot afford to hire a single room to themselves.

Indebtedness.--A very large proportion of the population of Bombay, particularly those belonging to the working classes, exist in a chronic state of indebtedness; and of this there are two kinds :—

(*a*) Debts contracted in their country usually in the form of a mortgage on land.

(*b*) Debts contracted locally with *Banias* and others in Bombay.

Indebtedness of the first class is responsible for bringing large numbers of workers to the City in search of employment. Debts of this nature generally range from Rs. 100 to Rs. 1,000 or more, upon which interest at the rate of from 10 per cent. to 12 per cent. is charged. In many cases holders of indebted land appear to have passed their land on to others, who cultivate it and pay the interest, the original holder retaining nothing but a lien on the land in the hope of some day resuming it. Local indebtedness is due to another cause. Usually people coming to Bombay in search of work are compelled to borrow from friends or relatives or to obtain goods on credit from *Banias.* If a man loses his employment, through illness or otherwise, he speedily falls into debt. It is no uncommon thing to find that men earning from Rs. 10 to 12 or Rs. 16 per month are in debt to a *Bania* for as much as Rs. 50 or more,

The impelling motive that brings many workers into the City is the necessity for earning money to remit to their homes, either for the support of relations or for the payment of debts or both. Thus it happens that the average Bombay labourer can count upon spending only a portion of his earnings upon himself. It is no uncommon thing for men, who have left their families at home, to remit a considerable amount of their wages each month to their native village. Masons from the Poona District earning Re. 1 a day will sometimes send as much as Rs. 15 to their country each month and many workers regularly remit Rs. 5 to 10 at longer intervals. But in many cases they find it necessary to borrow the money which they remit, and as a rule only those without incumbrances in the form of wife and children, can remit money regularly.

As the worker in Bombay has to spend a very large proportion of his earnings upon food and fuel it is clear that the fluctuations in the prices of the chief necessaries of life must affect him very greatly; and the larger the number dependent upon the wages of one worker the greater will be the effect of such changes. A single man without encumbrances earning from Rs. 12 to Rs. 15 a month will only spend from one-third to half of his wages on food; and he has a margin of income to prevent him feeling the pinch, as far as the restriction of diet is concerned, should a rise in prices of as much as 25 or 33 per cent. occur; and even if prices were to double there would still be no necessity for him to go short of food. But it is quite otherwise with the labourer on whom a wife and family are dependent. Even at the best of times the vast majority of poorer households in Bombay are only just able to obtain necessary shelter, clothing and food and they are often forced into debt to do this, especially when the purchase of new clothes, the occurrence of a birth or death or some other need arises for expenditure of an unusual nature. In this manner many thousands of the working classes in Bombay, among both casual labourers and those in regular employment, are forced to live from hand to mouth, taking their ordinary meagre diet of rice or bajri when they have money or can borrow and going short from

time to time as a matter of course. To these people fluctuations in the market price of food and fuel are of vital importance; and there is no factor which exerts a greater influence upon the health conditions of the masses in Bombay than this question of the cost of food. But it is probable that the question of high or low prices is not so important as that of fluctuations. If prices are uniform, whether high or low, a population adapts itself to the condition; but fluctuations, especially when they are considerable, upset the balance for a time. If prices fall, the result on the health conditions of the poorer classes is favourable for a short time; if they rise, and especially if the rise is sudden, the effect upon the health of these classes will be proportionate to the stress produced and will continue until a balance has been struck, either by adaptation to the changed condition or in consequence of prices falling again.

In the case of the Punjab a few observations that have been placed on record by Christophers in connexion with the investigation of the great malaria epidemic of 1908 point to the fact that economic conditions exert a very great influence upon the public health of that province. What first of all attracted this observer's notice was the specially high incidence of mortality from epidemic malaria among the poorest classes of the population. This fact led him to remark that:—

> "Among poor and dependent classes we therefore get a higher mortality than among the well-to-do. How far this is due to the less deadly effects of malaria or to an increased indirect action of the disease it is impossible to say. The proportion of adult deaths would seem to have some significance but the matter requires further study. The important point is that in arriving at an estimate of the effects of malaria in different towns and villages, it is necessary to recognize and allow for this class co-efficient."

The peculiar incidence of splenic enlargement among different classes of the population serves as a further illustration of the association of disease and poverty. Christophers found that at Amritsar the percentage of enlarged spleens among Brahmans, Khatris and Aroras was only 46 per cent. whereas it was 78·9 per cent. among low class Kashmiris and Sweepers. At Delhi also only

40 per cent. of Brahmans and Banyas had enlarged spleen whereas the spleen index among Chamars and Sweepers was more than double this figure, or 82 per cent. A similar incidence was also observed in the case of rural communities.

The following passage from Christophers' report is very significant :—

> "At Palwal and Delhi the presence of poverty turned one's attention to more general conditions which we may sum up under the term 'Scarcity.' The question of food and diet is too complicated to be discussed adequately in the present report. But it became evident, as the enquiry proceeded, that a full dietary, as understood by the well-fed European, falls to the lot of but few of the poorer classes, and that in times of scarcity these are accustomed to adapt themselves to circumstances *by proportionately restricting the amount of the food they take.* The extent to which this state of affairs seemed to exist was sufficient to show that if the human factor were at work, it was in the form of a proportionate stress upon the whole population, and that one must look for its most marked effects in years of scarcity."

A little further on he remarks :—

> "The most obvious method of getting a general idea of the prevalence of adverse or prosperous conditions at different times is by examining the fluctuations in the price of the food stuffs. Unfortunately, whilst prices give us a good idea of the degree of general scarcity, they fail to point out to us areas especially affected by failure of crops and other adverse conditions, the reason being that there is a very remarkable averaging process in regard to ruling prices, so that, however, severely one area is affected by shortage of crops, the prices after a brief discrepancy tend to level up if the other areas are unaffected. High prices may even increase the prosperity of a tract in which crops have been successful. With this reservation we may compare the average annual rates of the prices of wheat for a number of years with the incidence of fever epidemics. It will be seen that these annual average prices have risen and fallen in the course of years almost in a rhythmical manner, between a rate of about 10 seers to the rupee and a rate as high as 25 seers for the rupee. Also we cannot help being struck by the fact that if we take the summit of the curve in each case it will be found to coincide with

> an epidemic. Thus the first curve reached its greatest height in 1869, the second in 1879, the third in 1887, the fourth in 1892, the fifth 1897, the sixth in 1900 and the seventh in 1908. This sequence carried out with such regularity can scarcely be accidental. Also there is evidently more than mere relation to prices, for that the epidemic should always occur at the culminating point strongly suggests that it occurred when in a period of drought and scarcity a heavy monsoon fell. This would then both cause fever and, by giving good crops, lower prices."

An interesting correlation between prices and fever mortality was discovered when the total deaths occurring in October and November of each year since 1868 were compared with the prices of wheat for the corresponding years. In this case the co-efficient of correlation worked out at + ·61.

As a result of these and other observations Christophers was led to draw the following important conclusion regarding the general determining causes of epidemics :—

> "There seems very little doubt that the two factors, rainfall and scarcity, are the determining causes of the epidemic malaria seen in the Punjab. Broadly speaking until plague appeared malaria must have been the main agent which brought to a head in actual mortality the effects produced by the great economic stresses. Just as in famines malaria cannot act until nature is about to bring them to an end, so there can be little doubt that the effects of scarcity are to a large extent held over until the appearance of the first heavy monsoon. Then though the effect of the rain is to reap a harvest of deaths the period of stress is brought to an end."

Very similar views to those of Christophers have been expressed more recently by another worker on malaria Major A. B. Fry, I.M.S. In a recent report this observer states :—

> "That a large amount of mortality is only indirectly due to malaria and depends chiefly on economic conditions I firmly believe."

And in another paragraph dealing with conditions in Chota Nagpur he points out that :—

> "The economic condition favours mortality. There is no district in India where labour is so cheap or wages so low and the people

live on the brink of scarcity. I am told that they spend much money on drink and finish their store of rice and exist on roots, etc., until a new crop is ready. . . . The attached chart No. 15 shows that mortality is very largely affected by economic conditions. The abnormal rise of food prices in 1908 caused a very heavy mortality."

The chart referred to in the above passage points to a marked correlation between number of deaths recorded each year and the average price of rice for the corresponding period and the co-efficient of correlation is found to be + ·74. On turning to Bengal proper there appears at first sight to be less evidence of a connexion between economic conditions and the state of the public health, for it is only rarely that a correlation can be traced in this province between prices of food grains and mortality. But when we take as an index of relative prosperity figures relating to agricultural conditions, *viz.*, the published estimates of district crop outturns, and the proportions of current fallows and cultivable waste land a correlation is seen to exist between them and the recorded mortality returns. The correlation between fallows and the mortality rate is a positive one, which suggests that deaths tend to be numerous where fallows are common; but the correlation between death-rates and crop outturns is a negative one, and is marked when the death-rate among young children under 10 is considered. The co-efficients of the correlation referred to are given in the margin. These facts seem to show that unfavourable agricultural conditions tend to be accompanied by an increase of mortality. This view is further supported by a comparison of the death returns and crop outturns of certain districts for a series of years. For example the annual death-rate of the Burdwan district seems to be influenced by the character of the preceding harvest of winter rice as may be seen from the data given below, which show that generally speaking when the harvest is good the death-rate tends to be relatively low during the following

Co-efficients of correlation between fallows and:	
Mean mortality rate, 1901 to 1911 ...	—·37
Mean mortality rate of children under 10, 1901 to 1911 ...	—·33
Co-efficients of correlation between crop outturns and:	
Mean mortality rate, 1901 to 1911 ...	—·56
Mean mortality rate of children under 10, 1901 to 1911 ...	—·61

year, whereas a poor harvest is usually followed by increased mortality :—

Year.	Mortality during 1st six months.	Estimated outturn of winter rice.
1893	 15,693	56 per cent of normal.
1894	 24,350	100 ,, ,, ,, ,,
1895	 21,507	97 ,, ,, ,, ,,
1896	 31,037	37 ,, ,, ,, ,,
1897	 23,443	48 ,, ,, ,, ,,
1898	 14,890	125 ,, ,, ,, ,,
1899	 16,310	125 ,, ,, ,, ,,
1900	 19,400	95 ,, ,, ,, ,,
1901	 22,355	77 ,, ,, ,, ,,
1902	 24,531	67 ,, ,, ,, ,,
1903	 27,218	76 ,, ,, ,, ,,
1904	 20,589	66 ,, ,, ,, ,,
1905	 28,156	72 ,, ,, ,, ,,
1906	 27,261	97 ,, ,, ,, ,,
1907	 30,851	73 ,, ,, ,, ,,
1908	 47,883	47 ,, ,, ,, ,,
1909	 20,599	83 ,, ,, ,, ,,
1910	 18,932	87 ,, ,, ,, ,,
1911	 19,936	102 ,, ,, ,, ,,
1912	 22,608	85 ,, ,, ,, ,,

Mean standard deviation.

In this case the co-efficient of correlation between harvests and the deaths of the first six months of the year is – 62. The co-efficient of correlation between the mortality during the first six months of each year since 1901 and the outturn of winter rice is –·73 in the case of Birbhum also. But in working this out some allowance has to be made for the effect of a growing population upon the recorded mortality, a correction almost unnecessary in the case of Burdwan with its stationary population. Faridpur district affords a further example of the close connexion that exists in Bengal between unfavourable agricultural conditions and increased mortality. Faridpur is very densely populated and the proportion of culturable land remaining waste in each locality gives a fair idea of the relative fertility of the soil and when the death-rate of each *thana*

is compared with the percentage of culturable waste land there a high positive correlation is observable between them, the co-efficient of correlation being + ·62. This fact suggests that mortality rates tend to be relatively low on fertile soil and to increase as fertility of the soil diminishes.

Some connexion exists also between the prevalence of malarial disease and the state of cultivation, the quality of the soil and the character of the harvests. This shown by the co-efficients of correlation in the marginal table, which indicate that fever *indices* throughout Bengal tend on the one hand to be lowest in the most widely cultivated districts, where a considerable amount of the land is devoted to non-food crops, and on the other hand to be highest in areas in which harvests have been comparatively poor and where exhaustion of the soil necessitates frequent fallows. Moreover, this correlation is maintained in the case of comparatively small areas. A comparison of the fever and spleen indices of the various *thanas* in Faridpur district for example, with data relating to agriculture shows that malaria tends to be least prevalent in *thanas* that are widely cultivated, and most prevalent in those with a large proportion of fallows. The co-efficients of correlation are given in the margin, and it may be remarked that they would be much higher but for one *thana*, which is the only exception to the above rule.

Co-efficients of correlation between District Fever Indices and—

(1) Proportion of total area cultivated...	—·36
(2) Proportion of culturable area cultivated ...	—·51
(3) Proportion of cultivated area under non-food crops ...	—·41
(4) Proportion of current follows ...	+·50
(5) Crop outturn, percentage below normal	+·65

FARIDPUR DISTRICT

Correlations between—

	Thana Fever indices.	Thana Spleen indices.
(1) Proportion of culturable area cultivated ...	—·37	—·54
(2) Proportion of fallow ..	+ ·65	+ ·46

Although the facts just mentioned, especially those relating to poor harvests and disease, suggest that economic factors may exert a very great influence upon the public health of Bengal, there is so little data available at present regarding the economic life of the mass of the population, that it is only possible to speculate upon the manner in which these factors

work. We have no definite knowledge for example as to the actual income of the vast proportion of the cultivating classes, neither do we know what their expenditure is, and what proportion is spent on food, clothing or other necessaries. Experience has shown that in Bengal it is exceedingly difficult to obtain information regarding the domestic budgets of any class of the community and it is doubly hard in the case of rural population. And conditions in Bengal are peculiar, differing often very greatly from those in other parts of India. For instance, in the rural areas in Bengal indebtedness among the cultivating classes is a sign of prosperity—the poor being absolutely unable to get into debt, for no one will trust them, whereas those possessing property, unless they themselves are *mahajans* (money-lenders), appear to think that credit and the ability to borrow money is an asset which must always be realized to the full.

The facts recorded above point to the following conclusions:

It has been shown by observations in four different provinces of India that there is a remarkable correlation between the health of the population and their economic condition. What the exact interpretation of this correlation may be, cannot as yet be stated, in view of the meagre data available. This being so, in order to supply the information lacking further research is urgently required; and as much of this research can only be undertaken by trained economists there is a very wide field for original work in this direction. Finally the importance to medical research of the observations recorded in the foregoing pages may be emphasized. And it may be pointed out that a proper study of the bionomics of man, of which economics is an important branch, is as necessary to those engaged in investigating the epidemiology of malaria, plague and kindred diseases as a study of the bionomics of the parasites producing these diseases or of their alternative hosts.

C. A. BENTLEY.

THE ECONOMIC DEVELOPMENT OF JAPAN.

JAPAN is the economic "wonder-child" of modern nations, the infant prodigy of the East. In little more than half a century she has passed from a condition of primitive and unprogressive mediævalism to the adoption of the principal ideas, methods and institutions characteristic of the modern Western world.

In other countries there have been periods of "industrial revolution" when the volume and character of industry progressed by leaps and bounds. It was so in Great Britain between 1760 and 1840. Germany since 1870 has had something of the same experience.

But behind these periods of rapid expansion there lay centuries of slow growth wherein the technique of commerce and business organization was gradually worked out.

Japan has in the short space since 1854, and more particularly since 1894, superimposed the structure of modern industrial and commercial enterprise upon a past that not only knew nothing of these things but was markedly alien to the spirit of Western life and Western economic conditions.

In 1853, Japan was in theory an absolute monarchy. In practice there prevailed a harsh feudalism which gave the real power to the chief barons and put a premium on fighting as the principal occupation of the honourable classes. Intercourse with the outside world was strenuously resisted. Foreign commerce was confined to the privileged dealings of a few merchants at the port of Nagasaki. Internal trade was kept at a minimum by the lack of means of communication and the absence of manufacture on a large scale. The methods of production had nowhere emerged from the handicraft stage and even so labour was wholly occupied with the supply of the

necessaries of life for the mass of the population with the exception of the artists and craftsmen collected round the courts of the nobles and the temples of the priests. There was no accumulation of capital and little surplus produce for export.

It is difficult to picture the greatness of the change that has taken place in the life-time of not a very old man. In place of an effete feudalism there has been established a modern democracy ruled by a Parliament dependent on a wide suffrage. Instead of almost universal illiteracy there is universal compulsory education. In the year 1911-12 of every 100 boys of elementary school age 98·81 per cent. were attending school and in the case of girls 97·54 per cent. In purely economic affairs the following figures will suggest the progress achieved as well as the present rapid rate of growth :—

1. *Means of communication*—

(*a*) Railway mileage open to traffic—

	Miles.
1903-04	4,495
1912-13	5,985*

(*b*) Electric Tramways, mileage open to traffic—

	Miles.
1903-04	93
1912-13	602

(*c*) Japanese Steamships, gross tonnage—

	Tons.
1903-04	798,240
1912-13	1,528,264

2. Foreign Trade—

	£
1903	60,600,000
1913	136,189,000

N. B.—In 1913 Foreign trade in Japan was equivalent to a value of £2-11-4 per head of population. In British India in the same year it was £1-1-4.

*One mile to every 8,680 persons.
British India has one mile to 8,370 persons.

3. Number of Business Companies and amount of paid up Capital—

	Number.	Value.
		£
1903	9,247	88,760,000
1913	15,406	198,323,000

4. Expansion of manufactures—

(*a*) Production of Cotton Yarn—

	lbs.
1904	285,547,000
1913	671,622,000

(*b*) Weaving (Silk)—

	£
1904	5,704,787
1913	12,036,654

(*c*) Weaving (Cotton and Silk)—

	£
1904	1,106,917
1913	3,051,739

(*d*) Weaving (Cotton)—

	£
1904	5,182,791
1913	16,537,723

(*e*) Knitting—

	£
1904	679,913
1913	1,484,373

(*f*) Earthenware and Porcelain—

	£
1904	673,356
1913	1,767,683

(*g*) Matches, quantity exported—

	Gross.
1904	33,390,000
1913	44,009,247

(*h*) Total number of Factories employing ten workpeople or more—

1904	...	...	...	9,234
1913	...	...	...	15,811

The figures here quoted refer principally to the textile industry, Japan's chief branch of manufacture. They shew a general and rapid rate of growth which has been steady over the period referred to. But the figures are not exceptional and numerous instances of similar rates of growth might be given for other less prominent industries. In short, in place of the hand labour and primitive productive method of the old *régime* Japan has to-day dockyards, factories, and workshops fast growing in number and extent, many of them fitted with the very best machinery and organized on Western lines.

It is little wonder that a country that has progressed so far in so short a time should provoke exceptional interest. Particularly eager is the curiosity with which the more backward countries search in the records of modern Japanese history for a key to the secret of its rapid advance.

India especially must be interested in Japan. The great questions in the economic sphere in India to-day relate to the problems of raising the standard of life, of increasing the volume of production, of adapting the mechanical methods of the West to the exploitation of the labour and raw materials of the East. These questions Japan, an oriental country, starting with little capital, no previous experience, and handicapped by the traditions of the "dark ages," has solved, or is solving, for herself.

Can India do likewise, and, if so, by what methods?

It is not the purpose of this paper to examine the answers to these questions in detail. Rather, accepting the possibility and necessity of economic expansion in India, I wish to point out certain facts bearing on the recent economic developments in Japan that may suggest the bearing that they have on our problems here.

In doing so it will be well to emphasize at the outset two factors that are of primary importance in determining the economic position of a country.

I.—The Physical features of Japan.

Montesquieu in his "*Esprit des Lois*" long ago explained differences of social and political condition among the various nations as due primarily to the differences of climate and natural surroundings to which they were subjected. To-day the importance of such differences is fully admitted but they are nevertheless often overlooked in popular discussion.

Without going the length of supposing that human conditions are fatally determined by physical environment we must still admit that differences of the kind profoundly influence the mental and physical qualities of different people. Here then is a reason for expecting a difference between the character of the Indian and the Japanese people.

In the first place the climate is temperate or cold for the greater part of the year in the greater part of Japan. The average temperature throughout the year at Tokyo is about 57°F. The hot weather is short and even then the thermometer rarely rises above 95°F.

Although the Japanese are an Oriental people the classification is misleading if it suggests a contemplative as opposed to an active temperament, the lethargy of the East as distinguished from the energy of the West. Everywhere in Japan one is impressed with the active and energetic character of the people.

In the street the young children tumble over each other in riotous play. Men move briskly about their work. As a means of conveyance few horses are used except for heavy traffic. The rickshaw and the hand cart are universal. The smart pace at which these are drawn for long distances suggests a marked contrast with the amount of work done by the rickshaw coolie of India.

In the schools physical development and physical endurance are sedulously cultivated. In a word the Japanese are, speaking generally, a hardy, muscular, energetic people, who enjoy activity for its own sake, and this is partly to be ascribed to the nature of the climate.

In the second place Japan is remarkably well supplied with water in two senses. Her very long coast line and general geographical configuration means that a large proportion of the people live on the seacoast or within easy reach of it. This, again, means an abundance of fish as food of a higher nutritive value than is available to the majority of the peasants of India. At the same time the very plentiful rainfall ensures the regular growth of food crops and protects the people from the risk of periodical famines. Thus the standard of living of the peasant class is higher in Japan than in India.

Thus in two respects Japan enjoys a natural economic advantage over India. Her people are more active and energetic by reason of the more rigorous climate and she possesses a labour supply that is more efficient because better fed.

II.—The Psychological qualities of the Japanese.

The advantages just referred to Japan has enjoyed throughout her history. Without them it is true the recent rapid economic advance could not have been made. But they do not in themselves explain that advance. In seeking a further explanation attention must be drawn to certain well marked psychological characteristics of the Japanese that are of the first importance.

They are, in the first place, extremely imitative and very inquisitive. If an attempt were made to contrast the Indian and the Japanese in this respect, I should suggest that while the Indian character is imitative without being inquisitive, the Japanese is both. The Indian is imitative in the sense that he tends to repeat what he has done before. He is a creature of habit and having done a thing in a certain way once he tends to do it in that way always. He is conservative and little alive to new impressions. But the Japanese is on the look out for more than this. If he sees something new he wants to handle it and pull it to pieces and see how it works. He is essentially experimental and receptive. It is said that the Japanese agricultural experiment stations have little difficulty in getting the cultivators to interest themselves in demonstrations of the properties of a new manure or a new seed. Agriculture has been

greatly improved as the result of effort of this kind. No doubt the fact that primary education is universal in Japan has had a great effect in stimulating the readiness of the peasants to receive new ideas.

While the imitativeness of the Japanese is admitted by everyone, it is commonly asserted that they are lacking in originality, in inventiveness. They can copy, it is said, but they cannot create.

It is only natural that the evidences of imitation, whether in respect of political institutions or economic organization, should be particularly prominent in a country that has deliberately set out to adopt Western civilization and its methods.

That the evidence of originality is less obvious is equally to be expected since in all countries it is a quality that is relatively scarce. It is probably true that neither in her art nor her literature has Japan shown the highest quality of creative genius. The genius of the Japanese is primarily of a practical order. On the other hand, there are abundant proofs that the Japanese are possessed of great powers of adaptation and this itself implies a certain originality.

Another characteristic of the Japanese nature that is of the highest economic importance is the gift for combination and co-operative action. The importance of division of labour, implying also co-operation of labour, as a means to national wealth has long been an economic commonplace. Modern Japanese business enterprize contains ample evidence of ability to organize and combine for common purposes. The Jap is, indeed, very like the German in his love for method, drill, discipline, and organization.

This sense of order, this gift for combined action, implying mutual trustfulness and self-subordination, is shown in numerous instances in the modern industrial life of Japan. Among her most notable economic achievements are the administration not only of her own Railway System, but of the great part of the Chinese also. The success of her dockyards is another triumph of organization. The whole structure of commercial finance involves a carefully planned interdependence between the State, the banks, and their

customers. The producers in every important branch of manufacture are united as members of their trade guild which exists to watch over and further the common interests of the trade. A great part of Japanese export trade is carried out through the channels of large industrial houses such as the Mitsu Bishi which has interests ramifying throughout the country and commands large financial resources. In modern large scale business, enterprise, organizing ability and the gift for co-operative action are essential for success and the Japanese are fast developing these gifts. As a simple object lesson one could not do better than compare the method of coaling a steamer adopted by the coolies at Nagasaki with that found in an Indian port. Within the limits of the most primitive appliances the former is a triumph of co-operation, the latter an example of its almost complete absence.

A final reference must be made to the psychological qualities of economic importance possessed by the Japanese, namely, the qualities of courage and perseverance.

Every one is familiar with the tales of Japanese bravery and endurance in war. Those qualities are equally in evidence in the histories of the rise and growth of business undertakings in Japan.

Their success has not been achieved in a day. In numberless cases the present position of flourishing firms is almost entirely due to the long labour, the perseverance, and the self-sacrifice of the founders shown during the years of their economic infancy. The histories of such men as Josiah Wedgwood and of Stevenson are well known in England. They have many lesser known counterparts in modern Japan. It is at once fortunate and remarkable that the descendants of the old feudal leaders, the men with money and social position, have to-day turned to the spheres of industry and commerce without hesitation or hindrance on the part of social opinion. They are contributing to the supply of captains of industry whose function is to risk their capital and personally to devote their energies to the successful conduct of their business.

While referring to the qualities of the Japanese character most favourable to economic progress, something should perhaps be said

of the quality so often mentioned by critics—I mean the lack of commercial morality. The fact is admitted even by the Japanese themselves. Almost the first statement made to me by an official of the Department of Commerce at Tokyo was one regretting the serious nature of the handicap suffered by the Government in their efforts to encourage export trade through the unreliability of the Japanese producer in respect of the quality of his goods.

One of the chief concerns of the trade guilds to which I have referred is with the preservation of the quality of goods produced by their members.

The State itself has undertaken the responsibility in the case of the chief article of Japanese export—silk. Every bale of silk must pass through the "conditioning house" at Yokohama there to be examined by Government officials and marked according to quality. It is probable that the Government will apply similar measures to other articles of export.

But in the long run the Japanese can only hope to win and keep their markets in the world by realizing the value of business "good will."

At present their one anxiety is to get a footing in the market. Cheapness is always the quickest means of entry and immediate success is often gained regardless of the future.

My own feeling is that this phase of Japanese commerce is merely a passing one. It has been experienced in most manufacturing countries, not excluding Great Britain. In time self-interest alone, to say nothing of improved manufacturing technique, will lead the Jap to pay due attention to supplying commodities of sound quality.

I have laid much stress upon the psychological qualities of the Japanese people because it is in them that the explanation of their economic advance is largely to be found. If India is to develop industrially it can only be by the application of similar qualities. I do not deny that these qualities may be latent in the people of this country, but they need to be evoked, strengthened, developed. It is one of the root problems of education in India to discover how this

may be done. At present unfortunately the educational system is very imperfectly fulfilling its function in this respect. But that system itself is largely a reflection of the social customs and ideas of the Indian people. Those customs and ideas must first be modified if the ambition to achieve industrial success through Indian enterprise is to be attained.

Japanese Industrial and Commercial Policy.—One of the commonest impressions regarding commercial and industrial expansion in Japan is that it is largely the outcome of the fostering care of Government. There is a large measure of truth in this opinion. The Government takes an active and direct interest in promoting the economic progress of the country. Without its influence I believe that progress would have been much less. At the same time by emphasizing the degree to which their success has been due to the qualities of the people themselves I have attempted to guard against the suggestion that State aid has been the sole and sufficient cause.

In a study of modern Japanese industrial history for the purpose of discovering the secrets of her rapid progress two periods may be recognized, distinguishable by the difference of the commercial policy adopted by the State.

When Japan just entered the comity of nations open to the industrial competition of the world the immediate result that naturally followed was a sudden increase of imports without any equivalent expansion of exports.

Those responsible for her policy saw that, unless her imports were to be limited to such amounts as could be paid for by exports of raw materials and the products of her artistic handicrafts, she must develop her manufactures. But Japan is not capable of sustaining a large foreign trade on a basis of the export of raw materials. Like England at the period of the industrial revolution Japan had reached the stage when she required all the food-stuffs she produced for her own consumption. The rapid increase of population in recent years has in fact caused Japan to become a food importing country. In 1885 the population of Japan proper was 37,868,000; in 1905 it was 47,678,000; in 1914 it was 53,596,000.

Of raw materials for manufacture the only one of considerable importance is silk and this still forms the chief item in her export trade. It was thus early recognized that it was essential for Japan to become an exporter of manufactured goods. It is no exaggeration to say that the energies of the Government at Tokyo have been constantly and vigorously directed to this end from the seventies of the last century onwards. Her commercial policy has been mercantilist. She has assisted the import of raw materials, protected her native manufactures and stimulated their export. I have pointed out that the methods chosen for the furtherance of these ends are broadly distinguishable and fall into two periods. The first is that of direct State enterprise; the second is that of assistance to private enterprise.

In the early seventies a beginning had to be made. There was no machinery, no skilled labour, no class of commercial or industrial organizers familiar with the technique of trade or the methods of manufacture.

Under these circumstances the State started its own factories, of which one of the earliest examples was the Spinning Mill at Hiroshima. Machinery and expert workmen were brought over from Europe as well as samples of goods for manufacture.

It is a striking fact that within a few years nearly all these early ventures were handed over by the Government to private enterprise. In 1876 the Government raised a loan of 170,000,000 *yen*, then equal to about £34,000,000, in order to pension off the old feudal families. A part of this money soon flowed into the new industry. To-day the Government has certain industrial undertakings which it continues to work directly. But these are either for the production of things necessary to national safety, such as men-of-war, or State monopolies retained for revenue purposes. For the rest Japanese experience soon confirmed that of other countries that the State is less efficient as a producer and seller of goods than private enterprise. The essential feature of Japan's history at this stage was the readiness and the success with which private enterprise took over and carried through the early ventures of the State.

The Government however continued to help and direct private enterprise by importing machinery, especially in the spinning industry, and leasing or selling it to private persons on terms of repayment in ten yearly instalments without interest.

Very soon these private firms began to send over individuals to be trained in England. One of the first of such persons to go, in 1879, on his return became manager of the first Joint Stock Spinning Mill. To-day it ranks as one of the largest undertakings in Japan.

In these ways a beginning was made leading to the second period characterized by the method of State encouragement of private enterprise. This method, in turn, takes two forms, the direct and the indirect.

The chief direct action taken by the State to-day to foster private traders is as follows:—

1. Shipping Subsidies.

Japan regards the growth of her mercantile marine as of the first importance and aids it in two ways. Under the Shipbuilding Encouragement Law, 1896, bounties are given for the building of steel ships of not less than 1,000 gross tons. In 1913 there were 116 vessels aggregating 375,037 tons that had been constructed under the subsidy law.

Under the Navigation Encouragement Law, 1896, and the Ocean Service Subvention Law, 1909, Japanese transport business receive subsidies according to mileage, tonnage, speed, and age of steel steamships.

2. Railway Rebates.

The Government railways are able to give favourable rates to goods for export but it is said, although the facts are difficult to obtain, that there is also discrimination of rates in favour of the Japanese as against the foreign shipper.

3. Subsidies to Trade Guilds.

Those who are engaged in the manufacture or handling of staple articles may organize themselves into a guild. Each trade has its own guild for each local administrative district.

A guild may be initiated by five persons engaged in the same trade in the same district. But the organization is not legal, nor its by-laws effective until such guild is recognized and supported by two-thirds of all those in the district engaged in the particular trade. The guild is a quasi-official organization as the Government not only has the power to grant or refuse a guild permission to exist but members of the local administrative government have the privilege of being elected to various offices in it.

To these guilds the Government may grant a subsidy which may, and often does, go to encourage export trade. Apart from the Government subsidies the funds of a guild obtained from members' contributions are sometimes used to give bounties to those fulfilling export orders. The Government further aids the growth of manufacture through the guilds by renting out machinery to members on the security of the guild.

In addition to the three forms of direct assistance mentioned there may also be included the two valorisation schemes in which the Government has endeavoured to maintain the selling price of rice and silk in the interests of the producer. In each case 5,000,000 *yen* were voted to purchase and hold stock during a slump in prices. It may be said that these schemes are coming to be viewed with suspicion by Japanese public opinion. It is possible that their political effect rather than their economic results is the chief consideration with the Government.

The indirect method by which the State seeks to foster private enterprise finds expression chiefly in the following ways :—

1. By means of Banking.

The development of her banking system is one of the most striking instances of the rapidity with which Japan, in the early years of her economic emancipation, grasped the essential conditions of the situation and prepared to meet them. If she was to enjoy a foreign trade, two things were absolutely necessary : freedom from the handicap of her old silver standard of value and the organization of credit so as to make the most of her scanty supply of native capital. Her financial ministers thus early took steps to adopt the

gold standard and to bring into existence banks to finance different classes of the community.

The Bank of Japan, founded in 1882, is the central bank of the country and manages the Government business. But the three banks most directly instrumental in promoting industry and commerce, are:

(*a*) The Yokohama Specie Bank.

It was founded for the purpose of promoting foreign trade and has received large support from Government. At first it was given the management of several million *yen* of the Treasury Reserve Fund and thus had ample capital placed at its disposal for discounting foreign bills of exchange. In 1889 this support was withdrawn and instead the Bank of Japan was ordered to make call loans on security of foreign bills of exchange on demand of the Specie Bank to an amount up to 15,000,000 *yen* at the rate of 2 per cent. per annum.

Through the Specie Bank the Government has also from time to time given special help to particular industries. Thus in 1899 it received 3,000,000 *yen* for the purpose of financing the export trade in yarn by means of loans up to 80 per cent. of the value of goods on their deposit in Shanghai or Hong Kong, for which 6 per cent. interest was charged.

(*b*) The Hypothec Bank.

This bank was formed in 1896 for the purpose of making long term loans at low interest on immovable property redeemable by annual instalments within a period of fifty years. It also makes loans without security in cases of the adjustment of arable land under the law for such adjustment. Further, it makes loans without security to industrial, fishery, or forestry guilds. In 1913 the Bank made loans amounting to 203,000,000 *yen*.

(*c*) The Industrial Bank.

This was founded in 1900 as a *crédit mobilier*. It engages in various forms of business, but one of its chief functions is to advance loans on the security of industrial plant and on stocks and shares.

In addition to these central banks there are the local Agricultural and Industrial Banks in each prefecture which furnish loans

at low interest on security of immovable property or, on certain conditions, without security. Thus they advance loans, without security, redeemable at fixed terms of not more than five years, to parties of at least twenty persons who are combined with joint liability in agriculture or industry.

2. By means of a Tariff.

In 1866 Japan began with a very simple revenue tariff consisting of a 5 per cent. duty on all articles imported or exported. In 1899 she removed her export duties and retained a system of low import duties. But in 1911 a definitely protective policy was adopted, the main elements of which were the free admission of raw materials, the admission of semi-manufactured goods under penalty of a light duty, and the imposition of duties ranging from 15 to 40 per cent. on finished manufactures. The tariff has certainly been instrumental in causing the growth of new industries. For example. Japan now makes many pen nibs. But the nibs in rough form are imported from Birmingham as semi-manufactured goods and then finished in Japanese works. Similarly in the case of the pencil manufacture. The graphite is obtained from Europe and the cedar wood from America. The pencils are then made in Japan.

3. By means of scientific and technical instruction.

The Japanese are keenly alive to the necessity for learning new methods and making use of the best appliances and the Government does a great deal to foster and encourage such learning.

Much importance has always been attached to the work of commercial museums. These are well organized and not only serve as centres for the exhibition of products or appliances, but as sources of information. They receive reports regularly from the Government commercial students abroad and diffuse such information by means of pamphlets or verbal advice.

The flow of Japanese to the chief industrial countries for purposes of technical and commercial training is large and increasing. Thus the State railways send every year students who have already passed their preliminary training in the Japanese shops to acquire

further experience in American and British railway works. The Government also sends from 30 to 40 students abroad every year. They are selected on the result of an examination by the Department of Commerce. They usually obtain some employment in factories or business abroad, thus earning a part of their expenses, the Government giving them £6 a month in addition for a period of three years.

A higher type of students are sent by the Department of Education. These are men of high attainments in scientific branches of study who have been, for example, teachers in colleges. They are sent to acquire expert knowledge in different branches of industry and receive a subsidy of £18 a month. On their return they either enter an industrial business or join the staff of the Government experiment stations. These stations are of two kinds, industrial and agricultural. In the industrial experiment station at Tokyo, which I visited, I found six departments, each equipped with machinery, devoted to the conduct of experiments in the manufacture of different classes of goods, such as match making, leather making, pottery making, button making, etc. The station, with its chemists and engineers, makes experiments with the object of discovering the best processes of manufacture under Japanese commercial conditions. When the technique is worked out, or an improvement discovered, a pamphlet is published and circulated to the existing firms engaged in the particular industry in question. Sometimes these firms take the opportunity of sending workmen to the station to be trained.

There is no doubt that the work of these stations is doing much to familiarize Japanese manufactures with the best processes and methods of production.

I have referred to the chief methods by which the State is seeking to educate and assist private economic enterprise. I am strongly of opinion that the State is doing a very great deal to help forward the economic advance of the people. It is inevitable that so much State activity should cost money and in fact Japanese national expenditure has been increasing by rapid advances. In 1895-96

it was 85,000,000 *yen*; in 1914-15 it was 559,000,000. The counterpart of such increase is seen in the increase of taxation. In 1900-01 the taxation per head was 2·75 *yen*; in 1914-15 it was 6.50 *yen*. Japan still has 60 per cent. of her people engaged in agriculture and it is largely on the agricultural classes that this extra taxation falls. But it is contended by the Japanese that the extra burden of taxation is more than offset by the extra capacity to pay which has resulted from agricultural and industrial progress. In any case there is no division of opinion in Japan as to the necessity of continuing the present policy.

That Japan will be faced by many serious problems in the realms of public finance as well as in the sphere of industrial politics in the next decade is certain. But there is every indication that Japan will become an increasingly important industrial nation and this not primarily on account of the extent of State aid but because of the industry, the energy, and the courage of her people.

C. J. HAMILTON.

REPORT OF THE COMMITTEE ON CO-OPERATION IN INDIA.

THE presentation of this report is an important stage in the history of co-operation in India. The object of the Government of India in appointing the Committee was to make sure that, in the enthusiasm evoked by the success already achieved and by the prospects of the future, co-operators in India were not overlooking the necessity for a strong financial foundation. For it is important to remember that with all its various moral and material aims the first and essential characteristic of co-operation is that it should be economically sound. It shows the peasant or the artisan that by uniting his credit with that of his neighbours he can quite safely secure money more cheaply than he can borrow by himself: that by saving his spare money instead of wasting it in unproductive expenditure he can improve his position in the world, and that by combining with others he can supply his wants cheaply and dispose of his produce to the greatest advantage. It is true that the co-operative movement can and usually does aim at more than this, but it should never be forgotten that it is first of all "business" and that no society can succeed which is not run on sound lines.

2. In accordance with the instructions of the Government of India the Committee has studied the movement especially in regard to its higher finance and its relations with the outside money market and the report is one which will have a special interest for the investor. Everyone who has any acquaintance with the movement in India probably knows that societies of individuals, which the Committee designates "primary" societies, are financed by central institutions which receive deposits and loans for that purpose. In all the eight major provinces, except, perhaps, Bombay, the primary

societies are grouped together for purposes of inspection and finance under central banks or unions. In the Punjab, the United Provinces, the Central Provinces, Bengal and Bihar and Orissa the system of Central Banks has been followed. The shareholders of these consist partly of the societies themselves and partly of the educated community and the zamindars who take up preference shares and help in the management of the bank and the supervision of the societies. In Bihar and Orissa and the Central Provinces there is also a Provincial Co-operative Bank, which finances the central banks and helps to keep their funds in equilibrium; and such banks are shortly to be founded in Bengal and the United Provinces also. In Madras, Bombay and Burma nearly all the societies are financed by one large central bank, but for purposes of inspection they either have been or are being grouped into unions. The report is in effect the result of an enquiry into the working of these central institutions, though, as will be seen, such an enquiry was bound to embrace the condition of primary societies.

3. Now the banker has two broad considerations always before him: first, that the funds entrusted to him should be invested with absolute safety, and, second, that they should be so invested that he can always meet all demands made by his depositors upon him. In other words he must see that his assets are not only good, but sufficiently liquid. These general principles apply with just as much force to co-operative banks as to any others, and it will be found that most of the recommendations of the Committee are directed towards them. The report commences by pointing out that the financial stability of the central banks must always depend in the ultimate resort on the soundness of the primary societies, on which the whole structure rests. The reason is obvious. Central banks may only lend to societies registered under the Act and as their surplus funds can only be invested in certain specified securities of the nature of trust securities, the safety of their money depends entirely on the condition of these societies. The Committee, therefore, devotes more than a third of its report to the constitution and management of primary societies. Into these details it is impossible to

go, but it appears from the report that while the Committee is careful not to give the impression that the societies are at present by any means perfect, still on the whole it endorses the principles and methods hitherto followed. One gathers that it attaches the greatest importance to the limitation of the size and the rate of increase of societies, careful organisation, teaching of co-operative principles, cautious and methodical financing and strictness in recovery of loans; and it is a fair inference from the report that though there are, as might be expected, many faults to be eradicated, the prospects for the future are on the whole good.

4. One of the most important recommendations is that the union or central bank should, subject to the Registrar's control, assess a definite sum as the limit of the borrowing power of each society, and it is explained in some detail how this should be done. There is no doubt that in Bihar and Orissa at any rate the directors of central banks were in the beginning prone to over-finance societies, a mistake which might have been avoided had the assessment of credit been more methodical. But over-financing was also due in part to the theory that the members of societies should at once be cleared of all previous debts. Experience shows that this course is very unwise, both because it is not prudent to give out large sums of money to persons who have still to prove their character and to show that they are willing to manage their societies according to their bye-laws and pay their loan instalments regularly, and because the moral effect on the raiyat whose debts are paid off at once without any effort on his part is nearly always bad. The proposal to fix definite credits in proportion to the ascertained assets of the members is therefore to be welcomed, but it is still desirable that the control of the Registrar should not be too rigid. There is no better school than experience and if the directors of central banks are to achieve independence, it is better for them to make mistakes and even perhaps to be faced with a few bad debts.

5. The Committee finds that the taking of land by way of collateral security is not unco-operative and is in fact growing more common in Germany, the home of co-operative credit, but it points

out that owing to variations in the tenancy laws in each province it is not always possible for a co-operative society to obtain a valid mortgage on which it could sue for sale. Provinces such as Burma, where the members of societies are small occupants or landholders, appear to have a great advantage over others, such as Bihar and Bengal, where the members are usually occupancy raiyats who cannot transfer their land, unless the custom of transfer can be proved. The absence of such a right and even the uncertainty whether it exists or not make it often hazardous to advance sums to raiyats which they could use profitably and are really in a position to repay. So far as the restriction in the right of transfer has been made by law in the interests of the raiyat, there appears no objection to a special exception in favour of a benevolent agency such as a co-operative society, which will keep accounts carefully and so far from having designs against the tenant's holding would find it extremely awkward to be saddled with it. The real difficulty, in Bihar and Orissa, at any rate, is that the landlords regard the present state of the law as a safeguard to their interests and consider any proposal of this kind the thin end of the wedge for the introduction of a general right of transfer. Great efforts have been made to convince them that such a concession would form no precedent for the giving of this right, but at present there seems little prospect of an amendment to the Tenancy Act being passed by consent, and it is to be hoped that as the matter is one of the greatest importance for the future of co-operation in Bengal and Bihar and Orissa, the Local Governments will agree to undertake the necessary legislation.

6. Two other recommendations of the Committee about primary societies require special comment. The first of these is the finding that the reserve funds of primary societies should be utilised as working capital of the societies and not invested separately. This recommendation has already been challenged in the press and in the writer's opinion, and he believes in that of many others with special experience, it is unsound. It is fair to say that the Committee designate as "reserves" the whole accumulated profits of primary societies, of which, save in those provinces where the share system

prevails, nothing is ever distributed among the members. In one province at least the whole of these accumulated profits are treated as reserves and invested separately in a central fund which, it is understood, may be used by the Provincial Bank in times of emergency to support local central banks against panics. Both this and the other extreme recommended by the Committee appear unreasonable. As against the Committee's scheme there are several objections. Experience shows that, if the owned capital of agricultural societies increases too rapidly, the members achieve independence before they are fitted for it. So long as they have to repay substantial instalments to their creditors every year they are more or less compelled to insist on prompt repayments by their members. It has already been found that where this impetus is wanting, members who have not sufficiently acquired habits of punctuality and thrift tend to become slack in making payments. The experience of centuries of business and the general beliefs now held by investors make it also prudent to show to the world that the movement is prepared to meet a crisis. The central banks possess the nominal right at any time to call in their loans, if a run is made upon them by their creditors. If primary societies constituted reserve funds and invested them separately, such panics would be less likely to occur, and if they did occur the central banks would have greater resources to meet them. The mere constitution of such a fund would give confidence to the investing public. As against this the Committee would no doubt argue that if their recommendations as to "fluid resource" are followed there would be no necessity for a reserve of this kind. But there is a great difference between the reserve fund which is the property of the societies and a cash reserve which is not, and though both have their use for preventing panics and meeting sudden demands on banks, each is a peculiar source of strength and neither should be neglected in favour of the other. Moreover, in co-operative banking as in any other, we have to study the whims and ideas of the investor and so arrange our business as to appeal to him.

7. On the other hand the allotment of all accumulated profits to reserve appears to err on the side of caution and to deprive the

societies of a valuable incentive to effort. In Bihar and Orissa the attractive prospect of financial independence and low interest has always been held out to the members of societies as the reward for good working and they would certainly consider it a breach of faith if they were now compelled to invest all their accumulated profits in Government paper. The accumulation of so large a reserve also appears to be unnecessary. The writer's view which is accepted by many others is that a reserve fund should be constituted in each society of a certain proportion, say at least 25 per cent., of their accumulated profits and that it should be separately invested. The plan already mentioned whereby in one province these reserves are held in a large central fund which may be pledged to support the movement in any part of the province where its credit is threatened appears to be a good one, but at present it is difficult to persuade all co-operators to agree to it. It appears certain that an arrangement of this kind, without making too great demands on the societies, would conduce very greatly to the stability of the movement and would increase the confidence of investors.

8. The other point on which issue may be joined with the Committee is their recommendations on the subject of audit. Under section 17 of the Co-operative Societies Act the Registrar is bound to audit or cause to be audited by some person authorised by him in this behalf the accounts of every registered society once at least in every year. The Committee point out that this provision of the law does not entail the employment of a large Government staff and that there is no objection in principle to societies being audited by non-Government auditors licensed by the Registrar, provided that he satisfies himself by constant checking and supervision that the audit is properly carried out. This is perfectly reasonable and in consonance with experience of the continent, where a non-official audit is preferred as being less likely to develop into a routine, and it is only to the Committee's ideas about the payment and control of the non-Government staff that exception need be taken. The Committee says that though the auditors should remain under the Registrar's ultimate control, the appointment, transfer and dismissal of them

should, as far as possible, be made in accordance with the recommendations of co-operative institutions. And though it speaks with approval of the Provincial Audit Union of the Central Provinces on the ground that it will overcome the difficulty of want of prospects which always arises in the case of small and local establishments, it leaves it to each province to decide in what manner the various central banks, unions and societies should combine to entertain the auditors required. From these recommendations it may be assumed that the Committee was satisfied with the system prevailing in some provinces whereby central banks and unions arrange for the audit of their own affiliated societies. But this practice even, when reinforced by a Government "super audit," appears to be radically unsound and unlikely to command the confidence of investors. As has been pointed out above, the safety of the funds of central banks depends entirely on the soundness of their affiliated societies. If any of these were at any time in a bad condition, it might be to the interest of the directors of the central bank to conceal the facts from the outside public and from the Registrar, for whose commendation they are always anxious. Any one who has watched the recent disclosures in the Indian banking world would agree as to the probability of this happening. In Bihar and Orissa there have occasionally been signs of resentment on the part of directors against auditors who make full and frank reports on the condition of societies and the work of the central bank and its staff, and those who do their duty fearlessly are sometimes exposed to unpleasantness. If they depended for their prospects and promotion on the central bank concerned, it is too much to expect that they would not sometimes be influenced by a desire to stand well with their employers. It appears most desirable, therefore, that the audit staff should not be parochial or depend for its pay and prospects directly on the central societies. It is for these reasons as well as for those pointed out by the Committee that the Audit Union of the Central Provinces has much to commend it. An Audit Federation on somewhat the same lines is just being started in Bihar and Orissa and it is much to be

hoped that similar associations will be founded in all the major provinces throughout India.

9. So much for the safety of the funds of central banks. The remainder of the report deals chiefly with the second banking principle that funds should be so invested that all demands made by depositors may be promptly met. It is in this respect that the Committee appear to have found the co-operative movement in India most defective and their most important recommendations are those in connection with what they describe as "fluid resource." The Committee's views on this subject will be found in paragraphs 130, 152 to 158 and 174 to 176 and as this question is of great importance the following passages from these paragraphs are introduced verbatim:

(1) "It should, in our opinion, be assumed that it is unsafe for any banking institution to invest its funds in loans for longer periods than those for which the funds so invested are entrusted to it; that deposits must ordinarily be met from repayments of loans and not from potential renewals or fresh deposits (which should be exclusively employed either in fresh business or invested in fluid resources) and that the general body of fluid resource can only be legitimately utilized for the purpose of meeting depositors when there is a derangement of normal conditions." (Paragraph 130.)

(2) "In most cases money lent to societies is, we believe, repaid to central banks after an interval averaging from three to four years, the loans being repaid in yearly instalments, and where this is so it is sufficient that the deposits for one year should exceed in amount, the amount of the loans which remain out for one year, that those for two years should exceed the amount of the loans out for two years and so on." (Paragraph 130.)

(3) "The receipt and repayment of deposits should be distributed over the year as far as possible, in accordance with the generally accepted principle of spreading the liability." (Paragraph 130.)

(4) "The object of the resource is to meet contractions of credit entailing the withdrawals of deposits at due date and a failure to obtain new deposits." (Paragraph 153.)

(5) "The repayments of loans should then go to repayments of depositors, and new business should be financed from new deposits and from renewals." (Paragraph 154.)

(6) "The policy of a Central Bank should be to arrange to re-pay deposits from the repayments of loans and only to develop new loans business from new deposits and from the renewals of old ones. When it becomes evident the societies will be unable to make normal repayments of loans, a bank should apply its new deposits to meeting withdrawals of those that mature. It would, of course, at the same time, follow a very cautions policy in the financing of new societies and in making fresh loans to old ones. If and when loan repayments and new deposits finally cease, it must fall back on its fluid resources to meet withdrawals of deposits and to provide such help to societies as seems imperative." (Paragraph 156.)

10. The meaning of these paragraphs is perfectly clear and in fact extracts Nos. 4, 5 and 6 are merely re-statements of the principles laid down in extract No. 1, *viz.*, that in all normal times deposits are to be repaid by the money received in repayment of loans from societies and central banks and are not to rely on the renewal of existing deposits or on the hope of new deposits or their fluid resource in carrying on their business. It is obvious from reading all these extracts along with extract No. 3 that the Committee intended that the due date of repayment should be spread evenly throughout the year and that deposits should be repaid when necessary from the loan money coming in from societies. What makes it hard to understand these recommendations, which are perfectly sound in themselves, is that they ignore the fundamental difficulty in financing agricultural societies in some, if not in most provinces, that the loans are repaid only at one season of the year and that a very brief one. For instance, in Bihar and Orissa all the agricultural societies repay money to central banks from the end of March to the end of May and at no other time in the year. If therefore the repayment of deposits is to be distributed evenly throughout the year, central banks cannot always rely on loan repayments to meet them

but must even in normal times use their other resources. It is difficult to follow out the Committee's line of thought, but the only way seems to be to throw overboard in every place the recommendation that deposits should necessarily be repaid from loan repayments as they come in and to say that when deposits are not renewed and have to be repaid they must, except at certain seasons of the year, for the time being at any rate, be met from the fluid resource or new deposits. This apparently is the principle followed in Burma and it seems a perfectly logical and even a sound system. The idea underlying it is that the co-operative banks and societies are quite sound and that the lack of confidence resulting in the withdrawal of deposits or failure to attract fresh money can only be temporary and should pass away within six months. At any rate it should be possible by then if the societies are sound to raise money on some terms. The system followed in Bihar and Orissa is different from this and it is proposed to explain and defend it in another article; but, though open to criticism on the ground of over elaboration, the principles which the Committee appear to wish to lay down are sound enough and there is no doubt that if they are followed as far as possible they will conduce to the stability and the credit of the movement throughout India.

11. The report contains many other recommendations on subjects such as State-aid to co-operation, the position of the Registrar and the like, all of which deserve the closest consideration of Government, and altogether, with the exception remarked above, it is singularly clear and conclusive. It will be of the greatest assistance to all those now interested in co-operative work and will always remain a standard work of reference for those who wish to invest money or to learn about the co-operative movement in India.

B. A. COLLINS.

THE ORGANIZATION OF ECONOMIC RESEARCH IN RURAL INDIA.

AMONG the objects of the Bengal Economic Association none is more important than the encouragement of original research; and an attempt will be made in the present article to indicate some of the questions to which enquiry may profitably be directed and the general lines on which it should proceed. By original research is meant the collection at first hand of facts and figures regarding some side of the economic life of the country which has not formed previously the subject of systematic or, at any rate, exhaustive study.

There are two main branches of research—historical research and the study of contemporary conditions. It is with the latter that the present article deals. The field of historical research is a vast one in which guidance must be sought from the historian with special knowledge of the materials for the first-hand study of a period or an institution. An interesting essay in this branch of research is Mr. Radhakumund Mukerji's "History of Indian Shipping." It is worth noting, however, that apart from their value on purely historical grounds such researches have the same practical utility as the results of the study of contemporary conditions; and that is to enable us to check the unsupported statements and hasty generalisations which are so common in the discussion of economic questions. In India, especially, we have to be on our guard against distorting the present and idealizing the past; or against doing exactly the opposite, according to our particular preconception. Facts are the only solvent of such preconceptions.

Turning to the study of contemporary conditions we find much of the field occupied by official enquiries. Settlement Reports, the

minutes of evidence taken before the various Famine Commissions, the successive Reviews of the Industrial Position and Prospects of Bengal—to mention only a few examples—are an almost inexhaustive storehouse of facts collected at first hand by the most competent observers. Unfortunately, the information thus collected is not generally accessible, nor is it usually presented in the form in which it is most useful to the student of economic conditions. The excellent use that can be made of such materials in the proper hands is shown in Sir Theodore Morison's "Organization of an Indian Province." Moreover, many of the reports—in particular, the Industrial Reports—make no claim to be exhaustive; and much useful work can be done in checking and supplementing these by independent enquiries. There is nothing in the nature of things which makes such fields of enquiry more appropriate to the official than to the unofficial enquirer, apart from the fact that the former is often specially well-fitted both by his training and position for the task. As regards the collection of statistical information the case, of course, is different. Much of this work lies entirely beyond the scope of any private agency. Take the mass of statistical material collected in the course of the recent Enquiry into the Rise of Prices in India, for example. Apart from the expense of an enquiry of this magnitude, Government has access to many sources of information which would be closed to the private investigator. This is one of the things which Government must do, because only Government can do it. Here the function of the economist is to examine, correlate, and interpret the statistical data collected; and here again a vast amount of unused material lies before the student of contemporary economic conditions.

While there are some things connected with the economic survey of any country which Government alone can do; and while in India, owing to its peculiar position with regard to the main part of the economic structure, *viz.*, the land system, Government does much which it does not do in other countries; there are other things which, in India as in every other country, are the special province of the private investigator. The whole of what are called Social Economics,

come under this head; the standard models being works like Booth's "Life and Labour of the People in London," Rowntree's "Poverty," and best of all perhaps for the purpose of the Indian investigator Miss Davies' "Life in an English Village." At present only a beginning has been made in the application of these methods of intensive social research in India. Some interesting family budgets, taken from Crooke, are given in an Appendix to Chapter 8 in Sir Theodore Morison's "Organization of an Indian Province." Dr. Mann of Poona has published results of investigations which he carried out into the conditions under which the untouchable classes live in that city. In Bombay there is a Social Service League, which has for one of its objects "the collection and study of social facts;" and publishes *The Social Service Quarterly.* In Calcutta a similar organization exists for the study of social conditions among the domiciled community. In Madras, the Madras Economic Association has published some valuable economic surveys of villages in that Presidency. Lastly, may be mentioned the Chanakya Society of Patna College, a full account of which will be found in the Report of the Industrial Conference held at Bankipore in 1912. The Society publishes an Annual Report embodying the results of its work; of these there have appeared five, besides a separate collection of Family Budgets. It is on the basis mainly of experience gained in connection with the work of the Society that the suggestions contained in the present article are put forward.

It was stated at the inaugural meeting of the Bengal Economic Association that there are some twenty colleges within the area administered by the Calcutta University in which a professor of Economics is in charge of a body of students. It follows that there are twenty possible centres of research; for there is no reason why what has been done at one college cannot be done elsewhere. It may appear to some ridiculous to dignifying by the name of original research enquiries conducted by callow students. But on what grounds? On the ground that the enquiries themselves are not of sufficient importance to merit this description; or that the investigators lack the necessary experience or training for the work? Let

us consider what are the enquiries which it is within the competence of such investigators to undertake.

The following may be mentioned: (1) Village survey. (2) Description of some local industry. (3) Description of the actual working of the local co-operative credit society. (4) Effect of the War on local economic conditions. (5) Local organization of credit and exchange. A complete economic survey of any village, such as those published by the Madras Economic Association, would naturally contain information under all the above heads, where relevant; but this is a more elaborate and comprehensive piece of work than we can expect from the average undergraduate. Yet if he has access to first-hand information (and very often he will be the son of one of the Zamindars, and well acquainted with the patwári) it will not be a difficult matter for him to collect and arrange systematically reliable information on the following points among others. Situation of the village relative to railway station, pucca road, town or hát; area of arable and non-arable land; number of landlords and kinds of tenures; principal crops grown; classification of the population according to caste and occupation; and some indications of the general level of material prosperity furnished by the number of pucca houses, number of shops, wages, emigration of labourers, rough idea as to the consumption of such "extras" as milk, fish or meat, sugar, etc., and of kerosine oil. Such a piece of work, humble as it may seem, is entitled to be called research; and village reports—including a general survey as just outlined, along with special reports on banks, industries, etc.—if systematically collected and published through the agency of the professor of Economics or a College society directed by him would be of great intrinsic interest as well as most valuable for comparative purposes.

Another line of enquiry admirably suited to the capacity of this class of investigator is the compilation of family budgets. No one who knows anything of modern economics will need assurance as to the value of these compilations. Particularly in India, where from year to year changes in the habits of the people and a slowly rising standard of living are evident, is it of the greatest importance that

these changes should be faithfully reflected in records like these collected systematically over a period of years. It also happens that India is a peculiarly promising field for such enquiries. The people are poor; their system of wants is a simple one; and it is not difficult for them to state with substantial accuracy the main heads of their expenditure. If, judging by experience in other countries, we are inclined to mistrust the accuracy of the information imparted, and to argue that a man of the level of intelligence of the Indian peasant is scarcely likely to remember one month how much and on what he spent his money in the last, we are forgetting that to an Indian of that class the subject of ' paisa " is one of simply absorbing interest—the constant burden of his thought and the unwearying theme of his conversation. Nor is there any reluctance on the part of the Indian of that class, if approached in the proper spirit, to impart information about his material circumstances. There is none of that instinct of " keeping himself to himself " which is met with in the corresponding class in England. So much for the subject of the family budget. Next as to the investigator. It would be difficult to find anyone apter for the purpose than the Indian college student. He has access to a first-class subject in a cook or mali in his own service at home, or in some toddy-seller or goala or gorayet in his village with whom he is well acquainted. And he can be trained to collect and arrange the information in systematic way. Add to this that he has great faculty for extracting the full human interest from the circumstances of the family; and it may be said without exaggeration that he has a natural gift for the work.

A complete budget should consist of statistics and full explanatory notes on the following points. *First*, as to the caste and main occupation of the family. The names, ages, and relationship of the various members; and their respective occupations. The state of health enjoyed by them. Their material condition as compared with other families of the same village. Special circumstances of interest. *Second*, a full account of their property. The size and value of their holding; the style of house in which they live and its approximate value; the value of the

live-stock, household furniture, tools, and ornaments belonging to the family. Third, a description of the kinds and quantities of food they consume; the number of meals they take; and whether they can afford milk, ghee, sugar, etc., and if so how often; also a description of the clothing annually required by the male and female members of the family. *Fourth*, a full and detailed account of their various sources of income—including an estimate of the cash value of their crop and of payments received in kind, and full particulars regarding indebtedness. *Fifth* and lastly, a full and detailed account of their annual expenditure, both in cash and kind; including expenditure for food, clothing, lighting oil, tobacco and intoxicants; rent and expenses of cultivation; payment for the services of barber, dhobi, blacksmith, etc., etc.

It must be admitted that the large towns afford a much less favourable field for enquiries within the scope of the class of investigator we are here concerned with than the villages. But, while this is so, we may remember that 90 per cent. of the population of India live in villages as do also a very large proportion of the students attending college. And even in the large towns something might possibly be done by means of a combination of social study and philanthropic effort. That the Bengali student responds to the call for social service, and can render it when properly directed was proved during the floods of 1913. It might be feasible, therefore, to establish in some particular Mahalla or among some particular community the equivalent, in a very rudimentary form, of a University Settlement, the chief feature of which would, no doubt, be a night school. Students who taught in the school would naturally be brought into personal relationship with a more or less homogeneous community whose social and economic condition they would thus be in a position to study at first hand as opportunity offered. It is difficult to see how, apart from some such relationship, there could be any real point of contact at all.

The suggestions tentatively put forward, then, for the organization of economic research in Bengal are as follows :—Start with the Colleges! One plan would be to form a permanent sub-committee

of the Bengal Economic Association for the purpose. This, first of all, would get into touch with the College authorities. If thought desirable and necessary in any case, a member of the sub-committee might arrange to visit the College and explain the kind of work it was proposed to do and the equipment necessary. Another function of the sub-committee would be to prepare specimen enquiry forms for different classes of investigators and different lines of enquiry. A third function might be to consider, in an editorial capacity, contributions from the colleges embodying the results of their enquiries, and selecting the most valuable for publication in the *Journal.*

At the colleges it would be necessary either to form a Social Study Society with the professor of Economics as permanent president and a student as secretary; or, at any rate, to arrange that those students who might carry out enquiries under the guidance of the professor should read their reports before a meeting of fellow-students interested in the same work. It will be found that the criticisms offered at such a meeting on points with which someone present happens to be specially conversant, and the discussion which arises as to the different conditions and practices that prevail in different districts serve not only as the most valuable of checks on the facts and figures collected by the investigator, but have also a most stimulating influence in arousing and maintaining interest in such work. On the one hand, the investigator feels a legitimate pride in reading his report before his fellow-students; on the other, he takes pains to make it as free from flaws as he can. Wherever feasible, a College society for the purpose should be instituted. For one thing traditions quickly grow up about a College society, if it has any life in it at all; new-comers to the College come under the influence of this tradition, and in emulation with the older members are eager to participate in the Society's activities. For another, a College society may be able to keep in touch with ex-students, who may be invited to become honorary members on leaving College. This is a matter of great importance; for the economic research done by students while still at College can be regarded only as a starting-point. The colleges are the natural training-ground;

but unless those whose interest in social and economic questions is there awakened and who have learnt something there of the aims and methods of social investigation make use of this knowledge afterwards, the value of the training is lost. It is when the ex-student takes his place in the world—whether it be as a zamindar or a deputy magistrate or a vakil in a mofussil town—that he should be able to do the most valuable work; but it is too often the case that, out of touch with his College and his old interests, he quickly loses touch with intellectual things. If a College society of the kind indicated could keep in touch with its old members sufficiently to keep their interest in such questions alive and elicit from them from time to time reports on some social or industrial side of the life with which they had become identified, the value of such a society would be increased tenfold.

There ought to be and need be nothing mechanical or stereotyped about the work taken up by the members of such a society, whether those still at College or the honorary members (ex-students) who may be expected to take up work of a more advanced character. In collecting materials for a family budget or village survey there must be a carefully prepared form to guide the investigator; but within the prescribed limits there is scope for infinite variety of detail; and the human interest of such documents is inexhaustible. For the rest members should be encouraged to collect information and submit reports on any matters of social or economic interest which happens to come in their way—whether it be a peculiar form of local currency; or the batái system of cattle-rearing; or a grain gola; or a record of prices taken from the account books of some village bania. Whenever its means allow, the society should publish an annual report of its work. It may be added that the College vacations will usually be the most favourable for the prosecution of their enquiries by the undergraduate members.

Finally, the society should consist of active members only. No drones should be allowed. Those who, at the end of a given period, have done no piece of original work for the society and produced no report should be struck off the roll of membership. Such a rule is

essential not only as a spur to continued effort; but in order to keep the society itself true to type, and prevent it degenerating into something like a debating or essay club at which economic subjects would be discussed at second hand and grandiloquent papers of a derivative character read.

E. A. HORNE.

THE ECONOMIC POSITION OF EDUCATION IN INDIA.

THE very rapid advance of Education in India during the last quarter of a century has led to a great deal of wrangling on many issues. Discussions on educational aims and methods have up to now taken a prior place in the interest of both the Government of India and the public. The now well-known despatch of February, 1913, may be regarded as the summary of the policy of Government on matters of organization in schools and colleges. But behind these discussions there lies a whole body of principles which have never been enunciated definitely by either Government or private individuals; and in the few lines I give below I aim merely to point out certain lines of enquiry in order to make definite these fundamental principles. The scope of my subject is a very wide one. It suggests many ramifications, each of which might well form a paper for the *Bengal Economic Journal*. In some future number of this *Journal*, when I have both the time and necessary material by me, I may be able to elaborate some of the points raised.

One often hears it said that in India a disproportionate amount of the public funds is given to Education. Taking the last six years we find that Education has received the following share :—

	Total expenditure Imperial and Provincial.	Total expenditure on Education.
	£	£
1910-11	70,633,293	1,846,243
1911-12	82,835,750	2,021,189
1912-13	86,862,598	2,610,132
1913-14	85,207,175	3,176,809
1914-15	82,897,900	3,241,700
1915-16	83,117,200	3,394,800

The total expenditure on education between 1910 and 1916 has thus almost been doubled; and it was almost doubled between 1901 and 1912. In the short period 1901-02 to 1915-16 the amount given to education has been almost trebled. The national desire of the people for increased facilities for education has, it might reasonably be said, been fairly met. In spite of these figures, however, there are many public leaders in India who are never tired of asserting that the share of Education, as, say, compared with that of the Police, is not adequate. The extreme view on this side is represented by the demand for universal, compulsory, and free primary education. The debates raised by the late Mr. Gokhale in the Imperial Legislative Council on this point definitely extracted from Government the fairly obvious reply that the economic position of India does not admit of such at the present moment. It is an ideal to be worked up to, not something to be realized all of a sudden.

On the other hand a very considerable body of public opinion in India questions the advisability of giving so much to education. Education, says this school, is outrunning economic development, and that must mean disaster. It will impoverish the country by taking funds which should be spent on irrigation and sanitation and spending them in developing what should *succeed* not *precede* these. For the impartial observer who wishes to mediate between these two schools it is by no means an easy task to lay down guiding principles. At least one of two misapprehensions, however, may be removed.

1. Education is a plant which can grow only in prepared ground. In any system of Government peace and security of person and property must be established before any of the refinements of civilization can take root. Education therefore can have no share of the public funds till Government has secured its own stability by sound law, with an organized system of justice and general administration. The frequent carping at annual budgets in Bengal (with its abounding dacoities) because the amount under the heading " Police " seems disproportionate to the amount under " Education " is merely an argument for the justification of Government.

2. There is a great deal of confused thinking on the content of the term "Education." The amount placed in the Budget under the heading "Education" is not the only sum given to education as a whole. "Education" does not include merely schools and colleges and things pertaining thereto. A very considerable part of the Sanitation and Agriculture Departments properly belong to Education. In the organization of Government it is necessary to demarcate one department from another, but such demarcation is very rarely absolute. There is much overlapping and interleaving. Much of the criticism against educational grants is disarmed because of this. A recent issue of *Capital*, commenting on, and following, the recent Report of the Agricultural Department of the Government of India, pointed out that educational expenditure has been increased to ten crores for 7½ million pupils out of a total of 36 million children of school-going age. While the outlay on education is ten crores, the outlay for agricultural work is only fifty lakhs. *Capital* went on to argue that the advance of India depends on the advance of agriculture, and improved agricultural methods are of more importance than education. Eighty per cent. of the total population of India depend on agriculture, but Government instead of giving funds to agriculture gives them to universities. The same paper went on to show how more money should be spent on the Agricultural Department and quoted some statistics to justify its contention. India spends roughly £1 per mille of population—

Great Britain spends	... ...	£46	per mille of population.
Queensland ,,	... ...	£92·5	,, ,, ,,
Austria ,,	... ...	£86·5	,, ,, ,,
U.S.A. ,,	... ...	£36	,, ,, ,,
France ,,	... ...	£27	,, ,, ,,

None of these countries is so predominantly agricultural as India and, it was argued, as these countries are more advanced in education than India, surely India ought to spend much larger sums in instructing the 80 per cent. of her population which is dependent on agriculture.

In argument of this type there are several dangers. It is clear in the first place that the aims of "agriculture" and "education"

as given in the above argument are the same. The one department dovetails into the other. They cannot be separated. The agricultural experimental farms are the equivalents of the physical and chemical laboratories of our colleges. To cut off one department from the other simply because they are separate officially is to have a very partial view of our national economy. Again, it might very pertinently be asked, is not the reason why Great Britain, France, etc., spend more money in agriculture *just because* "education" is so advanced? The Agricultural Department will have great difficulty in persuading absolutely illiterate peasants of the validity of the laws of increasing and diminishing returns!

3. The agricultural statistics given above indicate a very grave danger in statistical argument in India. It would be easy to compile table after table of comparative statistics showing the relative amounts budgeted to education in, say, Great Britain, the United States, France, Australia and India, but to draw definite conclusions and omit all other factors—as to the present state of education, the standard of life, the characteristics of the people—merely reminds us of the well-known and very true aphorism about the three grades of lies—lies, damned lies and statistics. India is a country *sui generis*, and does not readily admit of comparison with Western States and the greatest care must be taken in working comparative statistics in India.

The statement that economic development or industrialism should precede education requires very careful analysis. In the first place it must be noted that education is a factor of production of prime importance. Much of the argument of the man-in-the-street against education is founded on a misconception of the meanings of the terms "productive" and "unproductive." Productiveness, he thinks, is synonymous with mining and ploughing, *i.e.*, actually bringing forth the "produce" of the earth. The mining clerks and the capitalists he will also admit as agents of production. But school teachers, inspectors of schools and the whole organizing staff of education, if not all the administrative agencies of Government, he will dismiss as unproductive. It is scarcely necessary to

refute the fallacy. A primary school teacher is as integral a part of the total production-process as the coal miner. The university professor " produces " just as does the capitalist. Each has his place in the productive scheme of things.

In the second place there is a very close connexion between education and the standard of life. Before 1870 in England there was a relatively high standard of living; but since the Industrial Revolution in general and 1870 in particular there has been a rapid rise. Education, democracy and an increased idea of comfort have gone hand in hand, and we see it at its maximum to-day in a country like Australia where democracy has reached its highest. In Australia the standard of life is very high, as also is the place which education holds in the public esteem. The Labour and Liberal Governments of Australia do not hesitate to pour public funds into the channels of education, for they recognize that the strength of their democracy depends on a healthy mind underlying it. I recently saw an example of Australian educational policy in the extension schemes of the Australian Universities—particularly Sydney University, where I was informed the aim was to let every working man, whether in Sydney or in the " back blocks," have at least some of the benefits through books and lectures, of a University education. In fact, national systems of education have been due to the Industrial Revolution. The Industrial Revolution destroyed the old individual and family self-sufficiency and threatened to annihilate the very lives which brought about the revolution; it also led to a need for increased skill necessitated by new inventions. The former of these led to a national system of education, for as Adam Smith pointed out, Government alone could prevent the dangers of the degradation of the working classes by providing elementary education for the poor. The latter led to technical education. Technical education is as yet young in India; but it *is*, and much of the casual criticism of education in India is due to the fact that " education " is usually regarded as purely literary education.

The position of education at present in India is parallel to that before the Industrial Revolution in Europe. For centuries education

in Europe was no more than the training of scholars. The pursuit of learning for its own sake and the advancement of culture by studying of the past were the main aims of educated men. As Mr. Fabian Ware points out, " the interdependence of mind and soul and body, pointing to the concurrent training of this human trinity into a sound and fully developed living organism, capable of conquering the actual surroundings in the midst of which it had to exist, had been lost sight of, and was not restored to the world until rediscovered by modern science, and expressed in new formulas with added truth."

In India scholarly education has held the field up to the present to the detriment of scientific and technical education. Government has in many ways tried to cultivate technical education in its many branches but the results have not been commensurate with the efforts made; and the failures are not to be ascribed to weakness on the part of Government but to a lack of will on the part of the people.

What is the outcome? At present, the various Arts Colleges in India—in Bengal in particular—are crowded out, so much so that if the present rate of progress is allowed to go on unchecked there will scarcely be standing room in the colleges. Many of these colleges teach science subjects it is true, but in very few cases does the science teaching end in anything outside the legal profession or that wide scope of employment, " Government Service." Overcrowding of professions is the result, and overcrowding simply means wastage of life and public money. The weaker—and many of the weaker in the legal profession might relatively be stronger in other professions—drop out, and late in life have to start in other channels of employment. There is a considerable loss of vital force in this process, and the loss is aggravated in a particularly insidious way. Many law graduates recognizing after a few years waiting, that they have little chance of success at their chosen profession, join the teaching profession. School-teaching is vitally important in the production of good workers and good citizens, and if it is in untrained or incompetent hands the whole state-fabric suffers inevitably.

Workers who, trained for one line of work, have later to adapt themselves to a different line are relatively unproductive. In the meantime, of course, a very considerable amount of Government subsidy will have been spent in the *wrong* education of what might have been the right men for other purposes. The sum-total result is a lessening of the productive energy of the country, with concomitant waste of public funds and human life.

This suggests a further study, which however I cannot enter into in detail in this note. Although I have not by me a comparative table of statistics for any satisfactory number of years, I am persuaded that on general principles no Government in the world has done so much in the way of subsidy for its student citizens than the Government of India. Here I may be allowed to quote what I have written in another place (*The Calcutta Review*, April, 1915). Speaking of the differences between European and Indian student life I wrote :—

But a more startling—and more vital—contrast between the Eastern and Western systems of University education is the contrast of expense. Judged by Western standards, University education in India is notoriously cheap. Students in Calcutta, which is the dearest centre in Bengal, living in a mess or hostel and paying college fees at the ordinary rate, may live at a monthly expense of anything from Rs. 25 to Rs. 30 a month. In fact, it is possible for students living in cheap unattached messes and attending colleges with a monthly fee of Rs. 6 a month to have a full course of college education on Rs. 20 per month. Even taking Rs. 30 as the minimum, a student may be a B.A. or M.A. with an expenditure of £2 to £3 a month. Taking the working year at seven or eight months, the annual expenses for fees and living would be some £14 or £21. Of course most Calcutta students spend far more than this, but the fact remains that a University education is procurable for that expenditure. At the same time the colleges have to be properly equipped and staffed, and the various agencies in the organization of education remunerated. It is here that Government steps in. Perhaps in no country in the world at any period in history have greater relative demands been made upon Government for education than in India. Nor has any Government been so responsive. The idea of Government subsidy which permeates the whole University scheme of things in India has led many thinking men to consider whether in this extensive subsidy of University education there is not economic danger. Education indeed is a factor of production of the first importance,

but in India many other urgent factors are to be considered; and while one must always insist on the supreme importance of primary and secondary education, it is difficult to sympathize with wholesale Government expenditure on University education. University education in the West depends largely on private sources, but in India Government is looked on as responsible alike for University, secondary and primary education. State elementary education is a recognized axiom in all modern governments, but few modern governments recognize an obligation to help Universities till the elementary conditions of University education are secured. These conditions are, in a word, good primary and secondary schools. *When* these conditions are secure, *then* the more Government can spend on the spread of higher education the better will it be for the country. But to hesitate as to which balance the gold is to be thrown into means dissemination of public forces with consequent lack of concentration and loss of efficiency.

This same idea of subsidy pervades the University residential system. It might very fairly be argued that a student should be able to pay for a certain type of life as well as for college teaching. In Oxford and Cambridge—or in fact Western Universities generally—no questions are asked on this point; it is a sheer necessity. But in India there is a constant tendency to whittle at logical principles. If the University regulations lay down that a student must pay fees for lectures and if it lays down that he must live in a certain type of house, then it surely can insist on his paying at least enough for his board and lodging to ensure no loss to either University or Government. The University regulations are virtually the agreement or contract of the University with the student, and it should not be difficult for either party to abide by them. But the plea of the "exceptional case" has proved too strong. Poverty *as such* has been the cause of many a liberation from the ordinary responsibilities of college education. Poverty is a sound plea for free *elementary* education, but the only claim that poverty can put forward in University education is that poverty *with ability* should be subsidized. No one can object to a clever but poor student being subsidized, but let that subsidy be not a Government dole but a private foundation. Compassion for a poor but dull student, taking the form of encouraging him by remission of fees and expenses of living to go on for a degree which he cannot take, is a refined form of cruelty, and a clear form of social wastage. If *all* free-studentships and *all* free seats were abolished and only scholarships given on the ground of ability *plus* poverty, then at least one canker of our modern system would be removed. In many cases there might seem to be hardship, but the rule is a salutary one, and once made it would have to be observed. Beyond that, *de minimis non curat lex.*

In his Convocation Address in January 1906, Sir Alexander Pedler spoke similarly. In detailing the causes of the want of practicalness in Calcutta University, Sir Alexander said :—

"The third cause......is one......which is absolutely detrimental to anything like really efficient work in High Education. I allude to the desire, which has actually become to a large extent an accomplished fact in Calcutta, of making University education so cheap that it can be availed of by the children of even the poorest parents. And when I say that the average annual cost of education in all our Bengal Colleges of a student in reading the Arts courses is only about Rs. 125, or about £8, it will be seen how cheap it has been made. I also quote from my own annual report the cost of education of each student in three principal first grade colleges in Bengal managed by Indian gentlemen. The figures are twenty-seven (Rs. 27), twenty-nine rupees (Rs. 29), and thirty-two rupees (Rs. 32), or say roughly the cost of such education was two pounds sterling per student for the year 1904-05. We need scarcely compare this cost with that of an English student attending Oxford or Cambridge. I would ask, is it to be expected that an efficient University Education for a degree can be provided for such an amount? How can really efficient University Education be given for £8 a year, and much less for £2 a year.

How can, for instance, Science be taught with laboratories, together with appliances for lectures and for the use of students for £2 or even £8 per head per annum?"

For anyone who cares to take the requisite trouble it would be a very interesting study to analyse the relation between the current standard of life in the middle and lower classes of different countries and the expenses of University education. I am afraid that India would not fit well into a comparative table. At the beginning of this note I pointed out that the total expenditure on education has multiplied threefold since 1901. A notable feature of the figures is that the expenditure on education from public funds has increased in percentage while the percentage contributed by fees has fallen. The former has risen from 43·9 per cent. to 51·5 per cent., the latter has fallen from 56 per cent. to 48·5 per cent. This may indicate indeed a laudable advance in primary education; but one cannot but hesitate in giving approval if it applies to University education too. University education is

not meant for the masses : it is for the able few and "able" implies mental and financial ability. Nowadays mental ability is usually well enough subsidized; but to subsidize University education as a whole without discrimination implies an appalling loss. The wastage of life and effort I have just alluded to is obvious; but there is another and very subtle wastage I have not yet mentioned. The present attitude whereby Government is regarded as the spoon-feeding father and mother leads to a loss of personal effort on the part of both parents and students which must be added to the already big loss of national efficiency-force. Unrewarded ability is uneconomic; but it is certainly not half so deleterious as laziness and incompetence bolstered up by subsidies. There is also the lack of stimulus to private enterprise; while finally there is the diversion of public funds into relatively uneconomic and unproductive channels. Professors and teachers have to be paid to teach and examine much material which should never come before them. Take a simple example. If 15,000 students appear at the Matriculation Examination and 5,000, or 33·3 per cent. pass, it is obvious that there is wastage of energy not in one but in many directions—on the part of examiners, organizers, teachers, and students. An inefficient scheme of education thus is uneconomic from beginning to end. Not only is it uneconomic, but it is *unpolitical*; if I may coin a word to express the danger to citizenship. A good system of education is to be judged, as Fitch pointed out, not by the number of its failures but by the number of its successes.

I have far exceeded my limit of space in this note. The remedies —raising standards of examination or raising school or college fees, making training colleges efficient for the production of efficient teachers, the raising of the pay of teachers, and so on, I leave for the present; I trust that some one may take up some of the lines of enquiry suggested and give them to the public in some future issue of this *Journal*.

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THE MORATORIUM.

It is proposed to study, in this paper, the uses and dangers of moratoria, and to undertake a historical review of the chief occasions on which they have been employed.

A moratorium has been defined as "a legal authorization postponing for a specified time the payment of debts or obligations." This is a good definition from the legal point of view. Another definition may, however, be suggested as more likely to bring out the economic significance of a moratorium. It may be defined as a compulsory continuation (through the action of the State) of the volume of credit existing at the beginning of a particular crisis. Even the State cannot undertake to regulate the dynamic fluctuations of credit, for the volume of credit must be ultimately based on, and regulated by, the volume of production; but the State can, temporarily, crystallize the credit situation existing at a particular moment. This policy of *continuation* of credit is to be contrasted with the alternative policy of *extension* of credit, under the authority of the State, which has been followed in some countries and at certain epochs, as for example by Germany in the present war, by France during the Revolutionary wars and by the United States in the Civil War.

Moratoria bear witness to the growth of economic solidarity and also to the growing magnitude of wars. Modern nations are so far dependent on credit, that they may be said to be living in a regime of Credit Economy. Credit possesses such a controlling influence on both finance and production that a paralysis of credit by war would paralyze all economic activity. Hence, during great wars and disturbances the State, in its own interests as well as in the interests of the nation, feels it necessary either to order the

continuation of the existing private credit or to interpose and extend its own.

Could the warring nations have evaded the necessity of declaring moratoria by financial preparations made in advance of the war? Of course, if some sort of " reserve provision " could be made against wars, so that an early and adequate extension of credit could be made possible on their occurrence, a moratorium would be superfluous. But financial experts agree that no such efficient preparation could have been made in advance. Both France and Germany have been preparing for decades against the present crisis; and yet when the time for action came, the former took refuge under the most comprehensive scheme of moratoria ever devised, while the latter adopted a policy of the most lavish extension of loans, and, even then, could not avoid a certain number of moratoria. At least since the Agadir incident the German Banks, by Imperial command, have striven to make their resources more liquid and concentrated at home. In France, too, constant preparations have been made both by the Bank of France and by the other great banks for a rapid financial mobilization. A high authority, H. Germain, could say on behalf of the other banks that they were ready for *any* event, if the Bank of France was ready. The present war dissipated all this confidence in a moment. The truth, of course, is that no one can possibly foresee either the moment of the occurrence of the war, or its extent; nor can it be known beforehand in what condition the banks and the markets will be at the time. It follows that neither the demand for credit at the inception of the crisis, nor the extent to which the banks are at the time able to supply it could be anticipated. If then no prior preparations could avail against war and the accompanying panic, it follows that the financial institutions must be given a " breathing time " to assemble their resources for the task of preparing the machinery for financing the war. They must be protected for some time from outside claims and demands in order to address themselves to this work and to organize a system of co-operation. The " breathing time " need not be very long—indeed we may say the shorter and the less formal a moratorium the more good it can produce. A judicious

extension of a conveniently occurring Bank holiday might, it has been urged, do a great deal. In the Middle Ages there existed both the fashion and the need for long moratoria extending even to periods of five years (quinquennalia); but with the modern credit conditions a moratorium is an essentially short period affair.

It has been argued that what the state of credit requires in war time is a stimulant in the shape of loans and not a sedative in the guise of a moratorium. It is admitted here that a moratorium should be only a short period phenomenon, and should be supplemented as soon as possible by a judicious system of loans. But to the proposition that loans should be the starting point of war finance, there are weighty objections. In the first place, time is required to organize a system of loans and to decide on who should be the recipients and in what measure. But apart from this it is clear that loans offered at once would be "absorbed in large gulps" in the first panic conditions. Moreover, loans offered thus early and taken up while the volume of industry is still on the peace scale would cause inflation later on when business falls to the "war normal" with the disorganization of home and foreign markets. The volume of credit should be proportionate to the volume of production; and to extend credit while production is contracting, is a course of treatment not to be recommended. When, however, something like the "war normal" has been reached, the time has arrived for supplementing the help given by the moratorium by help given in the shape of loans which can then be proportioned to the requirements of industry in the time of war. Herein lies the difference between the loan policy followed by France and England (countries which made a moratorium the starting point of their war finance) and the policy followed by Germany. Production being disorganized in the time of war, property was used in Germany as a measure for granting loans. This led to inflation.

The necessity for some use of moratoria is shown practically, in the present crisis, by the extent to which moratoria have been proclaimed by various countries. Of course, as Mr. Lawson observes, "without declaring a moratorium the Americans gave themselves the

benefit of it. On the other hand we declared a moratorium, but most of us repaid our debts all the same." It is admitted that a conservative and honest national character is a great asset, and a healthy public opinion is of the highest value both to avoid the abuse of moratoria and to terminate them betimes. But would even these assets availed much if Paris had fallen or England had been invaded? In such an event the moratorium would have been most useful at any rate as a second line of defence.

The necessity of a moratorium of some kind being thus shown we can proceed to examine the varieties of moratoria and to examine the merits of each. (1) The bill moratorium has been most widely employed and its advantages are obvious. The bill market is the nearest point of contact which a country has with the foreign countries and when the foreign drawers are unable to liquidate their obligations the market must be disorganized. Mr. Withers tells us that as "foreign debtors could not remit the funds to meet the bills that had been drawn on London to provide them with credit, it was clear that the banks and accepting houses, and also the bill brokers were in a very awkward position." In a similar strain Mr. Raphael Georges Levy speaks of the difficulties of the French bill market. The French banks having opened credit to foreign states, societies and banks had to liquidate although they had received no covering remittance. "The war had prevented many of these covering remittances from being sent to Paris. These engagements of many milliards weighed on the banks and paralyzed their activity." The only remedy was a bill moratorium; for there was no time just then to devise the scheme of relieving acceptors which made its appearance later. Indeed, even if the State had prepared such a scheme in advance of the war, the only result would have been to encourage reckless acceptances; while, as it was, Mr. Withers has shown that "finance bills had been created too rapidly." Hence on this subject we may conclude with Professor Foxwell that "this bill moratorium was probably an inevitable measure."

(2) But the bill moratorium only prepares the way for the banking moratorium; for the Moratorium, like Protection, tends

to multiply itself. So far as banks are acceptors of bills they gain by the bill moratorium; but so far as they are holders of bills their position is weakened by it. On the balance, however, the banks are weakened by it, since acceptance of bills is only an incidental function of the banks, while holding of bills as liquid assets is very largely practised by them.

The banks are also threatened by the closing of the Stock Exchange or by a moratorium in that institution. Thus the French banks were dissatisfied because by a decree of 27th September 1914 all demands in payment of claims relative to purchase and sale of stock prior to August were suspended. The closing of the Stock Exchange makes the investments of banks unsaleable, while a moratorium on Stock Exchange introduces difficulties as to repayment of loans.

These growing difficulties of the banks force them to demand a banking moratorium, and they can make out a fair case for it. Even a stern critic like Mr. Withers admits that if there was a mistake in declaring a banking moratorium, it was a mistake in the right direction. He wishes, however, that before resorting to this measure a suspension of the Bank Act should have been tried. On the other hand it may be submitted that similar powers given to the Bank of France have not averted a banking moratorium in France. It may also be urged that with the great reduction of the reserve of the Bank of England, which took place in the early portion of the crisis, that institution could not have easily extended much help to the other banks.

But though the arguments for a banking moratorium are strong we must not lose sight of its dangers. Unless numerous exceptions are made to it, or it is used by the banks with great self-control, it will virtually lead to a general moratorium. But further, the experience of France in the present war shows how a banking moratorium causes a distrust of the banks, with the result that after it is relaxed, the depositors withdraw as much of their money from the banks as they can, and hoard it. France has thus lost the use

of milliards of francs which are only very slowly getting back into circulation.

With the general moratorium we come to the least defensible and the most demoralizing form of moratoria. Discrimination is of the essence of any scientific use of the moratorium, and a general moratorium is an undiscriminating and universal suspension of payments. Thus in France the general suspension of contracts has encouraged a general belief in state socialism. We are told by a leading journal that "to many people the moratorium appeared in the light of a general permit from the state to the individual not to pay his debts." Apart from this, as Professor Foxwell has remarked, a general moratorium shakes the international credit of a nation. Consequently it is a measure to be avoided at any cost. No doubt the temptation to resort to it is very strong, especially in countries which rely on conscription. When the French Government blamed its troops in 1871 for fighting slackly against the Commune, the citizen-soldiers answered "How can you expect us to expose our lives in the streets at the very moment at which the herissiers are seizing our goods?" The retort was just, but a general moratorium is not the only way out of the difficulty. A better method is followed by the Government of India which has provided by Act XII of 1915 for the special protection in respect of civil and revenue litigation of Indian soldiers serving under war conditions. It is wiser to have a few special moratoria for the relief of particular classes most affected by the war than to rush into the great dangers involved in a general moratorium. Many European countries have solved the problem of discrimination by leaving to the law courts the discretion of granting protection and delay to debtors.

Before we come to the more recent instances of moratoria a word may be said as to the origin of the institution. It seems to have been a standing institution of the Holy Roman Empire. We are informed that a Rechtspolizeiordnung of 1577 conferred the right of granting special moratoria on District Magistrates who were empowered to grant them to individual debtors for periods as long as five years. Later commercial legislation in Germany confined

the power of granting moratoria to High Court Judges or members of superior courts. General moratoria were also granted to entire classes of men, as for instance to merchants, especially after wars. Before the Nineteenth Century all this could be done without requiring any special legislation; but, about the middle of that century the opinion gained ground that such habitual suspensions of contract were not advisable. The right to grant private or special moratoria was abolished by the new Civil Procedure Regulations as well as by the revised Bankruptcy Laws. This, however, has not deprived the Empire of the power to grant general moratoria by legislation *ad hoc* in time of war.

There was a moratorium in England in the time of the Restoration, the credit of discovering which belongs to Mr. Lawson.

But, France may be called the home and native land of the moratorium and the laboratory where the most interesting experiments in moratoria have been tried. We need not, however, go back to the times when impecunious French Kings were in the habit of profiting by those measures to avoid the importunity of their creditors. In 1830, when the July Monarchy was inaugurated, the Municipality of Paris interfered to prorogue for ten days the maturity of all bills payable in Paris. Further, when the July Monarchy fell in 1848 and there were great disturbances in France, the Government by successive decrees proclaimed a bill moratorium for eleven days; and the prorogation was further extended by the National Assembly. The effects of this bill moratorium were felt for a long time after. More than four years later the return of the Bank of France continued to show a million and a half worth of unpaid bills as the sequel of the bill moratorium of 1848.

Soon after the Franco-German war broke out demands were made by merchants for a bill moratorium. What was enacted, however, by the law of 13th August 1870 was not the postponement of the date of maturity of bills but of the period of protests for bills drawn before the date of the law. Further, a law was enacted that no proceedings could be taken against citizens called to military

service and the *gardes mobiles* under the flag during the period that the war lasted.

The project of the law was debated by a Committee of the Chamber, and the proceedings are very instructive. On the one side it was argued that the moratorium should be extended to the banks as well, " for how could a banker be kept to the engagement to give them up when called for, when nothing was coming in to him?" There were demands not only for a banking moratorium, but for a general moratorium. It was said that " whilst it would put a moral constraint on all people to pay their bills, it would shake the credit of those who, though honest, might be unable to do so, and that this might have been avoided by a general suspension of payment." The opponents of the moratorium, on the other hand, pointed out that " if France did not fulfil her obligations with foreign countries, commercial transactions with them would not be continued." Thus the arguments on both sides were put very fairly before the Chamber.

Undoubtedly a mistake was made in establishing a bill moratorium without giving any sort of help to the banks. An antagonism was thus introduced between the debtor and the creditor classes of the financial system of France. The bankers were, in 1870-71, urgent for a quick and abrupt termination of the moratorium, but the demand was resisted successfully by the other side We have learnt in the crisis of 1914-15 that with a bill moratorium steps must be taken to help the banks. It may be pointed out that some of the finest and most efficacious measures taken in 1914 for helping the banks and for rehabilitating the bill-market, were anticipated in 1870 by the sagacity of a French deputy. We find a M. Le Cerne of Havre proposing that " the Bank of France shall suspend cash payments; that it shall be authorized to discount bills with two signatures for four months; and that the Government shall be responsible to the amount of 50 per cent of all losses sustained by it in discounts recommended by the Government during the war." This remarkable proposal, which would have anticipated the war finance of 1914-15, was, however, rejected.

By the end of September 1870 the Government ordered that "depositors in Savings Banks demanding reimbursements shall only receive 50 *f.* in coin, the rest in Treasury bills."

But it was only due to exceptional reasons that France avoided a general banking moratorium. It is interesting to know how they were able to exist in spite of a run on them so formidable that one bank—the Société Generale—alone had to pay out more than five millions sterling; and yet the same bank could distribute a dividend of 5 per cent. The fact was, that the French banks had taken to heart the lesson of the crisis of 1848 and had invested their resources in large blocks of convertible securities. These were sent out of the country to be sold in England, and against the proceeds the Bank of France continued to make advances to the other banks. It was only by such heroic measures that a complete banking moratorium was avoided.

On the 30th September 1870 there was proclaimed a rent moratorium for the department of the Seine. That a rent moratorium is a dangerous measure was shown both in 1871 and 1915. The poorer sort always find it hard to pay their rent, for the payment takes up a very large portion of their income. To expect them after a few months of war to pay up all arrears is to expect an impossibility. We are told in 1916 that this is the sorest point when efforts are made to raise the moratoria and "the Government (of France) has itself admitted that successive decrees on this head have created a condition of complete demoralization; but the pressure of the Socialist supporters makes it difficult for them to act." If such is the situation now, it was not likely to be better in 1870.

The bill moratorium of 13th August 1870 was renewed on 13th September, 11th October, 10th November and 14th December 1870. Fresh prorogations took place on 27th January and 9th February 1871. Indeed so strong was the trend towards the bill moratorium that in some of the districts the Prefect would not wait for the decree from Paris but insisted on anticipating it on his own authority. Things were made worse by the conflicting decrees issued by the Government at Tours which prorogued the maturity

of bills (as distinguished from the protest) thus following the practice of 1848.

Amidst all this confusion the State had done wisely in setting its face against a general moratorium. Such an institution might have undermined even the thrift and honesty of the French nation. For this piece of self-control France was rewarded by the strength of its finance even after the termination of a most disastrous war. When the Bank of France published its accounts at the end of the war, the total of the discounts running and of overdue bills was only £35,000,000. A few months earlier the former item alone had amounted to £64,000,000. This argues, as was stated then, an unexpected facility in getting in money during an invasion and revolution. "Their bad and dubious customers, one would imagine, would certainly stop at such a time, and even their best customers would require to be 'kept going' and would not be able at such a crisis of difficulty to refund or to do without any large amount of the advances usually made to them." Such a phenomenal result would, of course, have been rendered utterly impossible had a general moratorium been instituted.

But even without that incubus it was found most difficult to raise the bill and rent moratoria. The process began in March 1874, but it was not till November that bills prolonged by law ceased to appear on the returns of the Bank of France. It is only in the present war that England has taught the world the methods of terminating moratoria promptly.

This long drawn out process of raising the bill moratorium began with the law of 10th March 1871, when under the guidance of M. Dufaure the National Assembly fixed various periods for payment; seven months being allowed for payment of bills falling due between 13th August and 12th November 1870. This law was the occasion for a display of the long-standing opposition between the debtor and the creditor classes in France. The legislation was strongly supported by the banks, especially by the Bank of France which held unpaid bills amounting to 800,000,000 francs. The debtors argued that the moratorium should not have been closed so

early, since the traders who had done little business during the war were unable to pay up by the time prescribed. They claimed further that the principle of payment by instalments should have been adopted. We may note that the system of gradual liquidation has been adopted in our days; and more use might have been made of it in 1871. Thus a French decree of 1915 has provided "arrangements for facilitating a partial liquidation" of the bill moratorium; and as to the banking moratorium, too, successive decrees in 1915 have allowed the depositors to withdraw 10, 25, 50 and 75 per cent. of their total deposits. But in 1871 it was believed that moratoria could be abruptly terminated; decrees were therefore passed which could not be carried into effect. As a contemporary observes "The working men who have been living for six months and more on public doles cannot be expected to pay nine months' arrears of rent."

Hardly was Dufaure's law made, when it had to be modified. It was only after various delays that the law of 26th April 1871 terminated the moratorium for the greater part of France. Though even then protests were not wanting from municipalities like that of Lyons which favoured the payment of debts by instalments. In Paris the financial settlement was greatly delayed by the Commune. It is very probable that the cause of the Commune was promoted by the steps taken to terminate the moratoria, which drove into rebellion many debtors who had no hopes of liquidating their engagements. The Commune, while in power, decreed that the commercial bills should be paid by instalments within two years. On the burning question of overdue rents, the Commune decreed that "nobody should pay anything for the last nine months." The Versailles Assembly ordered that "landlords shall be paid in full, but it authorizes juries to compel them to make reductions in rents of low amount (600 *f*), and subject to being reimbursed at the expense of the State and the Municipality, and to grant delays for high rents." Thus the landlords were saved from any loss whatever. The bill moratorium, too, had been extended in May and it was only by the law of 4th July 1871 that it was ended. The payment of bills went on

with promptitude and at last in November the last of the unpaid bills ceased to appear in the return of the Bank of France.

Such is the history of the French moratorium of 1870-71. It showed the necessity of supplementing the bill moratorium by other measures for helping the banks and for a rehabilitation of the bill market. Had the large scheme proposed by M. Le Cerne been adopted, the experiment would have been more successful. Matters were made worse by complicated and conflicting decrees and also by the attempt to terminate the moratorium abruptly. It was left for our generation to discover how to terminate the moratorium by extending other assistance to debtors, by making arrangements facilitating partial liquidation and by co-operating with a healthy public opinion.

In a second article I propose to discuss further historial instances of the use of the moratorium and to consider the lessons to be drawn from them.

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NOTE ON TWO FORMS OF INDEX NUMBERS.

THE conception of a general level of prices is similar in some respects to the conception of the height of the centroid of a group of bodies above a plane. Let $m_1\ m_2\ m_3\ .\ .\ .\ m_n$ be the masses of n such bodies and $y_1\ y_2\ y_3\ .\ .\ .\ y_n$ be their heights above the plane, respectively, then the height $\bar{y}$ of the centroid above the plane is

$$y = \Sigma my$$

If by some chance the heights and masses are altered and are now represented by the same letters dashed, then, the new centroid will be

$$\bar{y}' = \frac{\Sigma m'y'}{\Sigma m'}$$

The ratio of these two may be represented by R, so that

$$R = \frac{\bar{y}'}{\bar{y}} = \frac{\Sigma m'y'}{\Sigma m'} \times \frac{\Sigma m}{\Sigma my}.$$

In discussing price levels we may deal with prices and quantities of goods sold in much the same way as we have dealt with heights and masses.

Let $p_1\ p_2\ p_3\ .\ .\ .\ p_n$ be the prices of the commodities during one year and $p_1'\ p_2'\ p_3'\ .\ .\ .\ p_n'$ be their prices during some later year whose price level we wish to compare with the first. Let $q_1\ q_2\ q_3\ .\ .\ .\ q_n$ be the quantities of the commodities, respectively, which are sold during the base year and $q'_1\ q'_2\ q'_3\ .\ .\ .\ q'_n$ be the quantities respectively sold during the later year. Then the level of the prices in the base year $= \frac{\Sigma pq}{\Sigma q}$, and the level in the later year $=$ $\frac{\Sigma p'q'}{\Sigma q'}$. This level compared with that of the base year may be

represented by I, and

$$I = \frac{\Sigma p'q'}{\Sigma q'} \times \frac{\Sigma q}{\Sigma pq}.$$

So far we have not discussed the units in which the quantities and prices are measured. The quantity chosen is that amount which may be sold for 1 rupee or the monetary unit during the base year. Therefore $p_1 = p_2 = p_3 = \quad . \; . \; . \quad = p_n = 1$, $p'_1 \; p'_2 \; p'_3$, etc., are the prices of similar quantities during the later year, and are the ratios of the prices as usually expressed to the prices in the base year.

It follows then that Σpq however expressed will be equal to the total sales effected during the year. Also $\Sigma pq = \Sigma q$ and $\Sigma pq' = \Sigma q'$, for $p_1 = p_2 = p_3 = . \quad . \quad . = p_n = 1$. Hence the relationship for I may be expressed

$$\text{as} \qquad I = \frac{\Sigma\, p'q'}{\Sigma q}$$

$$\text{or} \qquad I = \frac{\Sigma\, p'q'}{\Sigma pq'}$$

This latter expression is the favoured one used by Professor Irving Fisher.

The objections to this are obvious. It is difficult to find the quantities bought and sold, for a series of commodities and for a series of years. Further, the calculation of $\frac{\Sigma p'q'}{\Sigma q'}$ is somewhat a laborious one. Hence, other formula have been suggested and one which is very commonly used is the arithmetical average of a number of prices, ratios $(\frac{\Sigma p'}{n})$.

Let $\frac{\Sigma p'}{n} = k$. It is now necessary to see how far k differs from I. Let $p'_1 + \delta_1 = p'_2 + \delta_2 = p'_3 + \delta_3 = \qquad = p'_n + \delta_n = I$ then $\delta_1 \; \delta_2 \; \delta_3$ — — δ_n are the amounts by which the price ratios differ from the ratio I. Summing these we have :—

$$I = \frac{\Sigma p'}{n} + \frac{\Sigma\delta}{n}$$

$$\text{but } \frac{\Sigma p'}{n} = K$$

$$\therefore \; I - K = \frac{\Sigma\delta}{n}.$$

If the δ's are all small and some negative and others positive, then $\frac{\Sigma\delta}{n}$ must be a small quantity, if we assume n to be large. This assumption is not accurate as far as Index Numbers for Indian Prices are concerned. Especially is this so when two years at some lengthy interval apart are considered. Take Robertson's price ratios for the year 1908. The highest is ·281 and the smallest 56. δ in these cases must be large.

The price of a commodity is related to the quantity sold by the "law of demand" which may be mathematically expressed as $e = -\frac{dx}{x}\frac{y}{dy}$ where e=the elasticity of demand, dx=the change in the quantity of the commodity bought. In the problem in bond it may be placed equal to $q'_1 - q_1$ for the first commodity, and by a similar quantity for each of the succeeding commodities, giving them the proper suffixes.

x=the quantity sold and here it may be taken as equal to q'.

y=the price of the commodity. This requires consideration. The "law of demand" assumes that the value of money remains constant. If, however, the unit changes from 1 to 1/I in the interval from one year to the next, the price p of the base year will become pI in the subsequent year supposing no change in quantity to take place, but p=1 therefore the price would be I, *i.e.*, y=I.

dy=the change in price, and this would have been brought about by changes in the quantity of the goods and not by changes in the monetary medium. This change may then be taken as p'—I This is equal to $-\delta_1$; for $p'+\delta_1=$I. We have then :—

$$e_1 = -\frac{q'_1 - q_1}{q'_1} \times \frac{\text{I}}{-\delta_1}$$

$$\therefore \quad \text{I} = \frac{\delta_1}{\dfrac{q'_1 - q_1}{e_1 q_1}}$$

$$\text{Similarly} \quad \text{I} = \frac{\delta_2}{\dfrac{q'_2 - q_2}{e_2 q_2}} = \frac{\delta_3}{\dfrac{q'_3 - q_3}{e_3 q_3}} = \ldots\ldots$$

$$\therefore \quad I = \frac{\Sigma\delta}{\Sigma \frac{q'_1 - q}{eq'}}.$$

$$= \frac{\Sigma\delta}{n} \quad \frac{n}{\Sigma \frac{q'-q}{eq'}}$$

$$1 - \frac{K}{I} = \frac{1}{n} \quad \Sigma\frac{q'-q}{eq'}\,; \text{ for, } \quad \frac{\Sigma\delta}{n} = 1 - K$$

$$\frac{K}{I} = 1 - \frac{1}{n} \quad \Sigma\frac{q'-q}{eq'}$$

It will be seen from this expression that when there is no change in the quantities bought and sold then $\Sigma \frac{q^1 - q}{eq^1} = 0$ or $K = I$. If, however, there takes place an expansion in trade from the base year to the year whose index number we are discussing, then, it is probable, that $\frac{1}{n} \Sigma \frac{q'-q}{eq'}$ is a positive quantity; and it is a negative quantity if there is a contraction in trade. Hence in the first case $K < I$ and in second case $K > I$.

This conclusion is not correct for every expansion, for there may take place a contraction in some heavily weighted commodities whose elasticity is small and thus, although a general or total expansion takes place, the terms relating to these few commodities may give a negative value to the fraction.

$$\text{Let} \quad \frac{q'_1 - q_1}{eq'_1} + \Delta_1 = \frac{q'_2 - q_2}{e_2 q'_2} + \Delta_2 \ldots \ldots = \Sigma\frac{q'-q}{eq'}$$

$$\text{then} \quad \frac{1}{n}\,\Sigma\frac{q'-q}{eq'} = \frac{\Sigma q' - \Sigma q + \Sigma eq'_1\,\Delta}{n\Sigma eq'}.$$

$$\text{and} \quad \frac{\Sigma\Delta}{n} = \theta$$

but it may be large, if a few of the $eq'\Delta$ happen to be large and are of the same sign.

Generally then we have

$$\frac{K}{I} = 1 - \frac{1}{n}\,\frac{\Sigma q' - \Sigma q}{\Sigma eq'} - \frac{1}{n}\,\frac{\Sigma eq'\Delta}{\Sigma eq'}$$

therefore when $\Sigma q' > \Sigma q$, *i.e.*, when trade has expounded, $K < I$ and when $\Sigma q' < \Sigma q$, *i.e.*, when trade has contracted, $K > I$.

To verify these results two wide numbers have been constructed one from the formula $\frac{p'}{n}$ and the other from $\frac{\Sigma p'q'}{\Sigma q}$, for 11 commodities: Coal, Iron, Wheat, Rice, Tea, Coffee, Sugar, Cotton, Jute, Wool and Tin. These commodities were selected because the quantities produced, consumed or exported were available and could be used as weights for the years from 1900 to 1909. The results are given in the tables below :—

The first table gives a period of expanding trade and here $K < I$ except for the three years 1903, 1904 and 1905, which are years in which Rice, Wheat and Cotton, which are heavily weighted, were abundant while the other commodities are not so abundant. The second table gives the period of contraction from 1906 to 1909 when $K > I$.

TABLE I.

Year.	$I = \frac{\Sigma q'p'}{\Sigma q'}$	$K = \frac{\Sigma p}{n}$	$\Sigma q'$
1900	100	100	118·0
1901	97·8	94·6	123·5
1902	97·8	93·4	129·4
1903	93·4	94·5	135·9
1904	97 5	99·6	156·9
1905	101 2	103·2	146·7
1906	117 5	114·2	165·5
1907	134·5	123·2	153·6
1908	132·3	123·8	150·7
1909	121·2	115·7	146·3

TABLE II.

Year.	$I = \frac{\Sigma p'q'}{\Sigma q'}$	$K = \frac{\Sigma n'}{n}$	$\Sigma q'$
1906	100	100	165·5
1907	106·3	110·6	153·6
1908	103 8	109·2	150 7
1909	106·5	105·6	146 3

The figures given show clearly the effect of weighting and also show that usually $K<I$ during expanding trade and that $K>I$ during a period of contracting trade. The figure from which I have made these calculations are obtained from the publications of the Government of India and the Statistical Abstracts for the British Empire. These results are somewhat spoilt by the curious overlapping in the periods for which prices and quantities are given.

T. T. W.

COMMERCIAL MUSEUM AT CALCUTTA.

In the organization and scrutiny of Indian economic resources a noteworthy step has been taken with the opening of the first permanent Commercial Museum in India. The history of this Museum is an instructive one. Last year, with the view of helping on the idea of capturing the enemy trade, a sample exhibition of goods imported from Germany and Austria was started in Calcutta, supplemented by a rather hasty collection of competing Indian products. This developed rather unexpectedly into a sort of peripatetic exhibition, as one Indian city after another solicited a visit from it. Madras was the city first visited and the number of exhibits was to a certain extent added to in that place. The visit to Cawnpore resulted in a still greater increase of exhibits, and the Upper India Chamber of Commerce took a great deal of interest in the exhibition. In Delhi a separate arcade was added for local exhibits and in Lahore the University Hall was utilized for a similar purpose—the space so occupied being many times the size of the present accommodation in Council House Street. The great success of the exhibition decided the Government of India to establish a permanent Commercial Museum. Its peregrinations had greatly increased the resources of the exhibition and had gone far to educate the public into a knowledge of its efficiency for business purposes.

And, indeed, he would be a poor business man who did not see the great advantages conferred by the present museum on the exhibitors. Its authorities display and catalogue the articles gratis. supply the catalogues free of charge to those interested and even take orders from those purchasers who prefer to deal through that channel with the producers. It is a well-organized and well staffed showroom offered free of charge to the commercial community. The

visitor to the Museum can watch the process of orders being sent out either direct to the dealers or through the Museum authorities. Throughout the world commercial museums have very important uses; but nowhere is their value so great as in India where the science and art of advertising is still in its infancy and producers are generally small men with little knowledge of distant or even of nearer markets. The mutual ignorance of producers and consumers is profound. Eminent craftsmen and dealers in India seem to have sedulously cultivated the art of concealing themselves from public notice and knowledge. The romance of "the Carmichael handkerchief" is well known, a prolonged search having been necessary to discover that "it came from a place called Murshidabad in a part of India called 'Bengal.'" But this is only one example—though the classical example—of the dense mist of obscurity surrounding many industrial operations in India. Only the other day the maker of some elegant glass umbrella handles was with difficulty tracked down in a street in Calcutta. As His Excellency Lord Carmichael observed, "I was greatly struck with the number and quality of many articles produced in Bengal and entirely unknown to me. I heard many other people who have been much longer in Bengal than I have express the same opinion * * * * The producer can come here to study the article which met the consumer's want but which is now no longer available; and the consumer can come to see what local product he can obtain to take the place of the foreign article which formerly supplied his needs." The utility of the Museum to the mercantile community is increased by the excellent catalogue of the Museum and by the copies of the catalogues of the exhibitors which can be had from its authorities. The Enquiry Office attached to the Museum is also a useful feature.

It is difficult to furnish in a brief space some idea of the varied contents of the Museum. Some of the main lines may, however, be noticed. The glassware from Allahabad, Jubbulpore and Ambala is a very promising feature—chiefly that from the last-mentioned place where Japanese artisans have been employed. "The bangle glass of Ambala and Ferozabad has succeeded in capturing the

market, whereas formerly large quantities of glass used to be imported from Belgium for this purpose." But on the whole Indian bangles form a line which sadly needs exploiting for enormous quantities are imported from Japan. The manufacture of Indian bangles is yet in a crude state, while the Dacca conch shell bangles, though very artistic, are rather too expensive for common use. Glass beads are another line at present neglected. It is also to be noticed that no exhibits have yet been received from glass works in the Deccan. Some of the locks exhibited show great ingenuity of contrivance, especially the patent shackle padlocks from Aligarh. Calcutta, too, has put in some excellent exhibits in safes and locks. The manufacturers of safes in India are, however, handicapped because the local steel manufacturers do not undertake to supply steel of the quality necessary and according to the specification. The reason is the small output of steel and the great demand for it in other directions. The clay models from Krishnagar are highly artistic and remarkably cheap, and so are the fancy articles made by Cawnpore village industries. It is wonderful what good taste is shown by the poor handloom weavers and cottage workers of Saidapet, Ponneri and Masulipatam in the designing of hand-blocked purdahs; and an equal measure of praise must be given to the Kanauj weavers for their tablecloths. Great mechanical skill is shown in the manufacture of the cheap and useful rotatory fans (after the style of the Jost fans) worked by kerosene and produced at Manicktollah; there may yet arise a great demand for them in the Mofussil. The same firm has exhibited a " Fire King " extinguisher, which has satisfied all the usual tests which are applied to such articles. Excellent surveying instruments are manufactured in Madras, and surgical instruments are not unrepresented. When the fine trunks and kitbags made at Cawnpore and elsewhere are inspected, one is surprised that any leather goods are imported into this country at all. But, no doubt, there is room for improvement and for the production of a larger variety of articles. Moreover, Indian leather goods, though of excellent quality, are somewhat high priced. India, on the other hand, is essentially a market for cheap and showy

goods, and among others, the manufacturers of safes are to be congratulated on their production of the cheaper lines of articles.

The buttons, the brushes and the pens produced in India have received their meed of praise. The Indian stylo pens also deserve credit; but the fact stands that the Japanese exporter can sell to dealers in Calcutta a similar stylo at one-fourth the price charged by the Indian manufacturer. On the other hand, some of the pen-holders made in Calcutta compare very favourably both in quality and price with similar imported articles.

Aluminium is now, of course, a successful industry, especially in Madras, and it owes a great deal to the exertions of Mr. Chatterton. The same may be said of the Chrome-leather industry of Madras. The specimens of cutlery from Agra, Gujranwala and Central Provinces appear to be of very fair quality. Playing cards are another article to the manufacture of which Indian manufacturers should turn their attention. The commoner qualities of them were imported in large quantities from Belgium and Austria; but Japan and Italy have seized the opportunity of the present war to capture the market. Some promising qualities of them were once made in Bombay, but it appears that their manufacture has been discontinued for want of coloured paper.

Still, Indian industries have, on the whole, made a good beginning, and a walk through the Museum might be prescribed as a certain cure for those suffering from an undue pessimism as to the economic outlook of India. The utility of the Museum, already so great, admits of almost indefinite expansion. More grants and large accommodation are absolutely necessary, however, for any progress. To the present Commercial Museum might be added an industrial and an educational side. Lectures might be delivered on each section by experts in the particular line. The idea has been suggested that artists might occasionally be invited to display their skill and craftsmanship in the Museum for the benefit and instruction of the public. The possibilities of the Museum are great, and public money spent on it has been and will be an excellent investment. The opening of this Museum is an important step in what

Lord Carmichael asserted was " a community of interest between the Government on the one hand and those who are engaged in developing the resources of the country on the other. Their true interests are the same—the increase of the wealth of India—and they must work as partners each doing his part."

It only remains to add that the Museum is fortunate in possessing a most zealous, well-informed and energetic Curator in Mr. Rice, who is indefatigable alike in enlightening the visitors and stimulating the exhibitors. The organizers of the Museum are entitled to great credit for the celerity with which the collection was brought together. The circular letters were sent out only in September last and by February the Museum was in working order.

It is, of course, impossible that one Museum like the present could suffice for all India; each province has special resources and needs of its own. The great cities of India competed with each other to obtain a loan of the sample exhibition, and the same enlightened self-interest will, it is hoped, induce them to lose no time in following the lead of Calcutta in the matter of establishing Commercial Museums.

J. C. C.

CURRENT TOPICS.

THE appointment of a representative commission to survey the possibilities of the industrial development of India is to be welcomed as a necessary and opportune measure. No better moment could have been chosen to take stock of past progress, present conditions and the future possibilities of industrial India. The formulation of an active economic policy was never more essential than at a moment when the war has made such important changes in the general economic environment. Partial enquiries have indeed been conducted in the past but as a preliminary to any comprehensive scheme of economic progress under the radically changed conditions of industrial and commercial competition a stocktaking of our resources and means was required. It was the more necessary in India as many other great portions of the Empire had already carried out a similar task and had made an inventors of their own resources.

In a sense the present Commission is an Indian counterpart of the Dominions Royal Commission which has in recent years inquired into the natural resources and economic conditions of Australia, New Zealand, South Africa and Newfoundland. The terms of reference of the Dominions Commission were very wide indeed, and it was directed "to report upon the development of such resources, whether attained or attainable: upon the facilities which exist or may be created for the production, manufacture and distribution of all articles of commerce in those parts of our Empire: upon the requirements of each such part and of our United Kingdom in the matter of food and raw materials and the available sources of such: upon the trade of each such part of our Empire with the other parts, with our United Kingdom, and with the rest of the world,"

Questions of labour supply and organization, of trade communications, mining, agriculture and land tenure were also dealt with by the Commission. The fourth interim report of the Commission appeared in March 1915 and dealt with the conditions of Newfoundland after which the sittings of the Commission were suspended till the conclusion of peace. India is more lucky in not having its economic inquiries suspended during the war. It is to be noted, that besides the Royal Commission, South Africa had an Economic Commission of its own in recent years to examine the problems of cost of production, cost of living and labour conditions and organization. It had for its Chairman a distinguished Professor of Economics—Professor Chapman.

The terms of reference of the Indian Economic Commission indicate that the Government has fully grasped the importance of all the factors that influence the economic development of India. A study of the "possibilities of further industrial development of India" is bound to be a comprehensive study of our economic resources. Emphasis is justly laid on "the employment of Indian Capital," because after the war there will be a relative scarcity of capital throughout the world and India cannot expect the accustomed help in that line. The Government shows a generous desire to contribute its full share in the work of India's economic regeneration, and is ready to "afford useful encouragement by providing technical advice, by affording practical demonstrations, by offering financial assistance," direct and indirect. We particularly welcome the last clause that only such means are to be employed as are "not incompatible with the existing Indian fiscal policy." It is a wise reservation.

The personnel of our Commission is such as to inspire public confidence. With Sir Thomas Holland as Chairman and with Sir D. J. Tata and Sir R. N. Mookerjee to represent the views of Indian captains of industry expectations may well be high as to the performance of the Commission. But it is to be hoped that an expert

economist will be added as a member of the Commission. Professor Chapman has already won fresh laurels as the Chairman of the South African Commission and Mr. Keynes as a member of the Commission on Indian Finance and Currency. In the case of the present Commission the name of Mr. Keynes would naturally suggest itself for inclusion could he be spared from his present very important duties. In any case it is most advisable to have either him or some other eminent economist on the list of members. Without such help, as has been pointed out in another case by Professor Lehfeldt, the outlook of a Commission may easily become that of the business man rather than that of the statesman or social student.

In Sir D. J. Tata the Commission has secured a member who combines a profound knowledge of business conditions with sound views on the theoretical side. He is an eminent representative of the economic interests both of Bombay and Bengal. His paper on the Japanese Industrial Invasion shows that he has already conducted important researches in subjects which will have to be studied by the Commission. In his speech before the Indian Industrial Conference he manifested a spirit of manly self-confidence and self-help which other leaders of Indian industry might imitate with advantage. It is not to be denied that under exceptional circumstances the State might give some degree of support to industries; but, in the main, Sir Dorabji described and defined the province of the State in industrial matters with great felicity and with scientific accuracy. "The main duties of Government are, apart from the domain of education, to conduct a scientific survey of the resources of the country; to place full information before the country in the most instructive manner possible; to provide reasonable transport facilities; and to ensure demand by giving to the products of indigenous industry their own custom, and so far as possible, that of large public bodies." His remarks on the extent to which Indian industries enjoy a natural protection deserved to be amplified with the help of statistics, and, indeed, the extent of this kind of protection will form a problem to be solved by the Commission. To emphasize this

is, however, not to deny that in a certain stage of economic development and with a certain social environment, the policy of artificial protection might do some good. But those who want to realize the limits of successful action on these lines may be referred to Taussig's recent masterpiece on "Some Aspects of the Tariff Question."

Professor Taussig's work will be reviewed at some length in our next number. Here there is room only to note the main result of his monumental labours. He does ample justice to the argument for "protection to young industries" and, indeed, he goes further. "I am disposed to admit that there is scope for protection to young industries even in such a later stage of development. Any period of transition and of great industrial change may present the opportunity." But, in his opinion, out of all the protectionist experiments conducted in America for a century and a half, the one great hit has been made in the case of protection to silk industry. In all other cases the claims of protectionists are shown to be very strong exaggerations. Professor Taussig's work is an admirable example of the combination of the deductive method with historical and statistical lines of investigation.

A great deal is being written about the Japanese and their industrial invasion of India, but the subject of American ambitions in Indian markets has been comparatively neglected. The Americans believe that "the Far East and the New Pacific are the future centre and chief arena of the commerce of the world," and they evidently include India in the "Far East." The prevalent notion in America is that 50 per cent. of the goods once sold by Germany to India and 75 per cent. of India's former imports from Austria-Hungary were in lines in which America is best able to compete. The lines in which America wishes to take the place of Germany are hardware and cotton and woollen goods. Of the former Austrian trade with India, the only item which America believes she cannot touch is sugar. Perhaps the American appetite for Indian trade is the more whetted, because, to start with, South

America proved a poor customer on account of its tariffs, its moratoria, the curtailment of its purchasing power and the general breakdown of the mechanism of commerce which it experienced at the beginning of the war. Moreover, at least in the period immediately following the beginning of the war the trade of the United States with South America was more affected and showed greater fluctuations than their trade with India. Besides this, the Americans feel that no great reliance can be placed on their present increase of trade with Europe. Thus Professor Patten says, "it should be remembered that at present America is getting nothing but paper credits for the enormous export of food and arms." The same authority believes that the war in Europe will be followed by a great trade depression on that continent. He, therefore, observes: "Professor Moore's conclusions are that the depression in industry lags four years behind the shortage in agricultural crops, and if this holds in the present case, we can infer that the burden of the war will be settled by an industrial depression in the near future." These are reasons why America attaches far more than the usual importance to her trade with India.

When, however, we turn from aspirations to performance, the American "invasion" appears of a much less formidable character. The fact is that in the race for the possession of Indian markets during the war Japan has very great advantages over America. Japan possesses the advantage of geographical proximity, and, what is more, as American experts like Mr. Folkmar see, "American trade is desperately handicapped at present by the lack of American shipping." This is the more felt on account of the crisis in the Far Eastern shipping. The effects of this shortage of shipping are left in Japan itself, but are much more serious in the case of America. Japan has studied the Indian markets for a longer time and to better purpose, and it is a pastmaster in the art of producing very cheap and showy goods which are so suited for Indian markets, and for the production of which a country still in the earlier stages of industrial development has such advantages. America has, of course, made

some progress in India, especially in the miscellaneous glassware, hardware and electrical appliances and motors, but the results have hardly yet fulfilled the expectations of the Americans.

It is difficult, on the whole, to believe that the present war will enable either Japan or the United States to make such great *permanent* commercial conquests as some have imagined. The opportunity presented to these countries by the war are at once too vast and too fleeting and short-lived. Thus the United States have at present to work at the tasks of increasing their exports to an enormous extent to Europe, to a considerable extent in South America and to some extent in India as well. Japan also is not only flooding India and China with her goods—a task enough by itself to overwhelm her resources—but is exporting munitions to Russia, and is at the same sending apparel, textiles, cement and glassware to Australia. Thus, during the war, the resources of these countries must be strained to a considerable extent. The diversion of capital and labour made necessary by the new circumstances must be very great, and the process has to be a hurried one—for no one can know how long the war will last, and every manufacturer is out to make hay while the sun shines. All this means great friction, waste and premature extensions of industries. In the case of Japan at least, it has been observed, the machinery for such enormous expansion of industry is lacking. Many experts are also of opinion that a good share of her exports savours of dumping. It is not without significance that while Japan is sending out piece goods in unprecedented quantities, some of her textile factories are reported as working short time. Sir D. J. Tata has noted that some Japanese exporters seem to sell their ware at low prices only to make their assets liquid, as their working capital is small in proportion to the increased size of their business. While increase in the national scale of production is an undoubted economic advantage, it has also to be considered that such expansion may lead to relative overproduction when peace returns and may sow the seeds of a crisis. It is not here implied that Japan and America have not had a considerable measure of success

in "capturing" some of the trade of other countries, or that the momentum of the start is a factor to be ignored. Japan will undoubtedly have improved her trade greatly in China and India while America will find her line of least resistance in South America as well as in the Far East. What, however, has to be seen to is that there are heavy items on the other side of the balance. The truth is that, the conditions of comparative cost determine the share of a nation in the sum total of international trade and any permanent addition to such share must be the result of long and patient progress rather than of violent and abrupt efforts.

After prolonged deliberation the Japanese Government has launched the project of subsidizing the manufacture of dye-stuffs. One reason which went far to recommend the scheme was that to a country in which textile industry is making such rapid progress the supply of dyes at a reasonable price was indispensable. Another argument which has also had great weight but which has not been put forward prominently is the close connection between the manufacture of dyes and the manufacture of high explosives. It is well known that Germany has been greatly benefited in the present war by the magnitude and efficiency of her colour works. Japan has therefore offered a subsidy to encourage the manufacture of dyes and chemicals. Its amount will be such as to secure a dividend of 8 per cent. per annum on the paid up capital of the company benefiting by it. The subsidy or guarantee can be enjoyed for a period of ten years by any company which undertakes the manufacture of dyes and chemicals either as its chief business or auxiliary work. It is at present proposed to pay three subsidies, one to a company engaging in the manufacture of dye-stuffs and having a capital of at least six million yen; another to a company manufacturing glycerine and carbolic acid and of which the capital should amount to at least a million and a quarter yen, and the third to a company manufacturing drugs with a capital of half a million yen. The companies benefiting by these subsidies will, however, be working under Government control; its business will be supervised and they must obey such

Government orders as are issued, with regard to their business; any failure to obey the instructions will lead to a forfeiture of the subsidy. Moreover, the beneficiary companies must not distribute their profits without ministerial sanction, and in any case, 5 per cent. of the profits must be put aside to form a reserve.

The scheme met with a fair amount of criticism both in the press and in the Diet. Thus, the *Jiji* doubted whether even with the subsidy the manufacture of dye-stuffs and other chemicals could be so well established in Japan during the period of the war as to maintain its position against German competition in the future. "Chemical knowledge and experience necessary for the successful manufacture of dye-stuffs at a cheap rate is too young in Japan to expect any degree of progress in a short time." Moreover, if a weak and inefficient industry is set up by the subsidy, it will become necessary in future to protect the vested interests thus created from competition by raising the import duties on dye-stuffs and chemicals at the cost of increasing the fiscal burden on the nation. It need hardly be said that these criticisms are sound and well considered and the history of subsidized enterprises in the past has not been such as to inspire high hopes. Nevertheless, Japan is driven to the present effort by economic necessity and this experiment under altered economic conditions deserves to be studied carefully. The war has given rise to so many new and pressing economic problems that attempts to solve them on any lines are bound to be instructive.

OFFICIAL PAPERS.

AGRICULTURE IN INDIA.—By JAMES MACKENNA, M.A., I.C.S. (Government of India Press: 1915).

THE question of improving Indian agriculture has long been recognized to be one of the most important economic problems of modern India. The importance of agriculture in the national economy of India can hardly be over-estimated. It is the one industry by which India stands or falls. It is her very life. It is the mainstay of our people, supporting as it does. directly by itself or indirectly by its subsidiary industries about 218 millions of souls or about 70 per cent. of our total population. It is thus the foremost industry of the country. The annual value of the agricultural produce of British India alone has been recently estimated at £1,000,000,000. Further, agriculture is the main strength of our finance system. Land in India is regarded as the property of the King and the land revenue which it yields—it is fruitless to argue here whether it is taxation or economic rent—forms a very large part of our total revenue. Again, our vast foreign trade depends largely upon our agriculture. In a way, it thus helps to maintain the stability of our exchange—which is of prime importance to a debtor country like India. A failure of our jute or wheat crop not only causes loss to the cultivators but it also sharply reacts on our exchange through the breakdown of our exports. Consequently, the well-being of our agriculture must be a matter of supreme importance for both the people and the Government.

Such being the importance of agriculture in India, anything that promotes its productivity must be earnestly desired. Scientific agriculture alone can increase that productivity and can help us to grow two blades of corn where we now grow one. The possibilities of scientific agriculture may be said to be limitless. It has already worked wonders in those countries where it has been systematically applied. Take for instance America. The American farmer is a new product in civilization, running the land as a great factory. The rude old agriculturist is being fast replaced by a highly educated first-class captain of industry. As a writer describing the miracles of new agriculture in America once wrote: "Each farmer now works with the power of five men. The farm has become a factory. Four-fifths of its work is done by machinery, which explains how we can produce one-fifth of the wheat of the world, one-half of the cotton and three-fourths of the corn, although we are only 6 per cent. of the human race. Roughly speaking, the time needed to handle an acre of wheat has been reduced from 61 hours to three by the use of machinery. Hay now requires four hours instead of 21, oats seven hours instead of 66 and potatoes 38 hours instead of 109. . . . There are now 15,500 farmers who have graduated from agricultural colleges. The Agricultural Department at Washington has become the greatest aggregation of farm-scientists in the world. To maintain this Department, Uncle Sam pays

£2,200,000 a year. . . . Place your finger on the pulse of your wrist and count—one—two—three—four. With every four of those quick throbs, day and night, a thousand dollars clatter into the gold-bin of the American farmer. The American farmer earns enough in 17 days to buy out the Standard Oil and enough in 50 days to wipe Carnegie and Steel Trust off the industrial map. One American harvest would buy the Kingdom of Belgium, King and all; two would buy Italy; three would buy Austria-Hungary, and five, at a spot-cash price would take Russia from the Tsar."*

The peculiar liability of India to famines demands a vigorous and consistent policy of agricultural development on scientific lines. The pamphlet before us—" Agriculture in India "—gives a brief account of what the Government has done so far to promote that end during the last 10 years, *i.e.*, from 1905 when the Government found itself ready with a definite policy. The years before 1905 may be said to have been years of hesitation when the Government hardly knew its own mind, and literally rocked from one policy to another simply because it had no policy of its own. The fetish of one day became the heresy of another. Since 1905, however, matters changed. After long years of hesitation and discussion, Government decided upon a consistent policy which it was prepared to carry out. It may be interesting to dwell briefly on some of the most important questions dealt with in the Report.

The history of the formation of a separate Department of Agriculture in India is a very interesting reading. The question was first raised in 1866 after the great Orissa famine, but it was not until 1869 that Lord Mayo's Government began to think of it seriously when the Manchester Cotton Supply Association urged the Secretary of State to establish such a Department for each province. The Government of India proposed to create a Department of Agriculture and Commerce with a Director-General in charge of it. The Secretary of State, however, modified the proposal substantially and only an additional Secretary was added to the Government. No scientific officers were employed and very little was done for real agricultural development. Even this show Secretariat was abolished in 1879 because the Government of India had not money enough to spare for it. The Famine Commission of 1880 again revived the scheme and, as a result, a Secretary was again appointed for Agriculture and Directors of Agriculture were appointed in most provinces. But their work was confined largely to collection of statistics and very little was done by way of real work. The Government in a resolution of 1881 postponed all agricultural improvement, until agricultural enquiry had been completed—whatever that meant.

In 1889 the Secretary of State on his own initiative sent out Dr. Voelcker of the Royal Agricultural Society to enquire into Indian agriculture and he submitted a most valuable report and made many important suggestions. A conference was summoned to discuss them and it recommended the immediate appointment of an agricultural chemist with an assistant for research and teaching work. An agricultural chemist and an assistant were accordingly appointed in November 1892—the teaching work being confined to Poona, Dehra Dun and Saidapet. In 1897 it was thought that an Inspector-General of Agriculture should be appointed to act as an adviser in agricultural matters to the Imperial and Provincial Governments. But it was not until 1901 that

*Casson in the *American Review of Reviews*, May 1908.

Mr. Mollison was appointed to the post. An Imperial Mycologist was appointed in 1901 and an Entomologist in 1903. Thus was laid, after long efforts, the basis of the present Agricultural Department of the Government of India.

The origin of the Pusa Agricultural Research Institute may be briefly stated. Early in this century the Bengal Government proposed to use a large Government estate at Pusa for a provincial research station and college. The Government of India found the site excellent and wanted it for itself to found an Agricultural Research Institute, an experimental farm and an agricultural college. At this time Mr. Henry Phipps of Chicago gave a magnificent donation of £30,000, which Lord Curzon decided to utilize for the equipment of Pusa. The idea at first was to make a model agricultural college at Pusa. Students were to be trained, agricultural enquiries were to be initiated, varieties of crops were to be tested and improved, seeds were to be grown and distributed and new experiments were to be tried before being recommended for trial by provincial farms. But, after much discussion and changes of policy, it was decided to reserve Pusa for pure research. No regular instruction is given except short courses in special subjects. Selected graduates from provincial colleges receive instruction in the laboratories from members of the expert staff. Thus, experts are not compelled to waste their time in formal teaching while the graduate, who has received a fairly general agricultural education, is provided with ample opportunities of specializing in one branch of agriculture. The staff at Pusa consists of a director, an agricultural chemist, a mycologist, an economic botanist, an agricultural bacteriologist, an economic entomologist, a pathological entomologist and an agriculturist in charge of the farm.

Along with the development of the Pusa Institute, Directors of Agriculture were appointed in most of the provinces and provincial agricultural colleges were established in Poona, Cawnpore, Sabour, Nagpur, Lyallpur, Coimbatore. Their chief work is teaching along with research, experiment and distribution of seeds.

The Report gives brief but interesting accounts of the ways in which the agricultural departments have tried to improve our leading crops, *e.g.*, cotton, wheat, rice, sugarcane, jute, indigo, tea, etc. It is impossible to deal fairly with any one even of the above within the limits of this short review. But a few lines with regard to the efforts to improve our cotton, sugarcane and indigo crops may not be uninteresting.

Cotton.—Early attempts to improve cotton by introduction of exotics in Bombay, U. P. and C. P. almost generally failed because no allowance was made for differences of climate and environment and no systematic agricultural experiments were carried out to ascertain under what conditions of sowing and cultivation these new varieties would succeed. Further, the exotics themselves deteriorated in many cases after a short time. In other cases the exotics became hopelessly mixed up with local varieties, making it difficult to isolate and develop them. The problem before the agricultural department was thus:

(*i*) To improve the quality of short-stapled cotton by selection of best pure types from existing indigenous varieties and the increase of their yield by better cultivation. In this part of the work, the results achieved were highly satisfactory. The Imperial Cotton Specialist made a survey of the indigenous cottons of

India and by strenuous work a select variety of Broach cotton was found for Bombay which yielded 500 lb. to 600 lb. per acre with a ginning percentage of 32·5 against 450 lb. per acre with a ginning percentage of 31·9 obtained from the unselected seed. Similarly, "Roseum" in the C. P., "Aligarh White-flowered" in the U. P., "Karunganni" in Madras—all these selected varieties of indigenous cotton testify to the solid results achieved.

(*ii*) To introduce exotics or to produce hybrids for producing long-stapled cotton to meet the demands of Lancashire. In this, the results are not very satisfactory. The hybridization and crossing work of Martin Leake on Mendelian lines in the U. P. are yet in the experimental stage. Egyptian and Upland American cottons have been introduced in Sind, Punjab and U. P., while Upland Georgian has been successfully introduced in the C. P. The introduction of Cambodia was eminently successful in Madras and the cotton was boomed—so much so that it led to adulteration. Local inferior cotton was mixed with it and the whole was passed off as genuine Cambodia. Such tactics can have one result and the crop fell under suspicion from which it has not yet recovered.

Sugarcane.—Although India is the largest producer of cane sugar in the world, yet she cannot meet her own needs. Java sugar has hit our sugar industry hard. The reasons are quite clear. In Southern India, which lies within the tropics, thick canes predominate and yields are large. But the crop is relatively unimportant. The area under it is small and is limited by the amount of water available and the quantity of paddy grown. It is in fact a luxury crop and is grown on a very small scale. Large extension of cane cultivation can hardly be expected in Southern India.

In Northern India, in the absence of a warm climate, canes are poor, thin and short, though grown abundantly. Northern India has thus a predominating interest in the crop. As Dr. Barber has said "the limiting factor in cane-growing in South India is water and in North India warmth." Northern India has one advantage—the growing period there is much less than that in Southern India where it usually takes 12 to 14 months. Besides, the canes are hardy against drought and water-logging and are often grown on unsuitable lands.

In 1901-02 "Red Rot" having almost wholly destroyed the crop in Madras, Dr. Barber started the Samalkota farm and found "Red Mauritius" to be the hardiest of all "red rot" resistant varieties. As a result of it, the cultivation of "Red Mauritius" rapidly extended.

The problem of the Indian sugar industry is twofold:—

Firstly.—Mechanical—in order to discover the best method of extracting and concentrating the juice on a scale within the means of small cultivators or groups of them combined.

Secondly.—Agricultural—in order to improve the quality of canes by selection or cross-breeding and to increase their outturn per acre by manurial and cultural tests.

On the recommendation of the Agricultural Conference a skilled Sugar Engineer was appointed. He has rearranged factories so long working wrongly and is trying to devise a cheap and effective crushing machine suitable

for small cultivators. He is also demonstrating more economical boiling processes.

On the agricultural side of the problem, Dr. Barber is in charge. The Samalkota farm imported canes from other countries and successfully introduced some of them. But the dangers of such imported varieties are great. None are really wholly immune from local diseases. There is always the risk that they will ultimately succumb. Further, hardly any of them are suitable for introduction in the great cane-belt of Northern India. In some provinces, however, imported varieties have been very recently introduced and if they succeed, the introduction of hybrids will not be necessary. As Mr. MacKenna writes, "The problem is the introduction into the main sugarcane tract of North India of richer canes giving higher yields, with greater resistance to disease and yet adaptable to the means and methods of our ordinary cultivators."

Indigo.—The growing of natural indigo was once a very flourishing occupation for the Indian agriculturists. In the sixteenth century, India exported large quantities of indigo to England and other European countries. England, France and Germany passed laws prohibiting its use under drastic penalties. Since 1897, however, the industry has steadily declined. In 1895 the acreage under indigo was 1,250,000 acres. In 1914 it was only 131,700 acres. The rapid decline in indigo is solely due to what is called the "Colour Yoke" of Germany—the gradual domination of the whole world by Germany in the supply of dyes. The discovery and manufacture of synthetic indigo in Germany, in 1898, led to a steady decline in natural indigo which failed to compete with its new rival. For a long time serious efforts were made by the people and the Government to save this valuable industry. The indigenous *Sumatrana* was a low yielder of colouring matter. In 1898 Mr. Baily, a Bihar planter, introduced Java indigo which gave a very large increase of colour. It did very well and the acreage under it gradually increased, so much so that it was even confidently asserted that the industry might after all be saved.

But in 1907 it was attacked by an insect pest called *Psylla*. Further the plants regularly wilted away owing to some unknown disease. The outturn was very much reduced and the disease became steadily worse. The industry was threatened with total ruin as Java indigo could not be induced to form seed—the disease killing the plant before the seed set. The Sirsiah Indigo Research Station was helpless, and when the production of seed became impossible, its work of selection naturally stopped.

The problem before the industry is largely, but not wholly, agricultural. The present manufacturing methods extract about 70 per cent. of the total colour. Mr. Mackenna thinks that any further attempt to increase this percentage can only be done by a very heavy increase in capital expenditure which is not only unnecessary but also unjustified. "If the indigo plant," writes Mr. Mackenna, "can be induced to grow healthily, and if the area and yield can be increased, the industry run on its present lines will be sufficiently remunerative, and it may be possible to compete with synthetic." But inspite of Mr. Mackenna's opinion, there can be no doubt that there is much in our manufacturing methods which can advantageously be improved. "There is a distinct want of organized thought and method both in the manufacture and sale of natural indigo." This is a serious handicap in its competition with synthetic indigo. There is not only a serious loss in the steeping

vat, but further, the indigo is brought to the market in a condition which makes it impossible to obtain the full use of its colour content in practice. The smooth paste is dried and rendered into a compact solid cube mass which the dyer has to take and by a long and wasteful process of grinding in water get back to something like its original condition. The cost of re-grinding is a heavy burden. Further, it is impossible to get the full use of the colour—no matter how thorough the grinding is. The Germans studied and knew the dyers' requirements before they put their product on the market. The Indian producer ignored the market with the result that the market ignored them. They will persist in forcing on the market solid indigo which it does not want. The market therefore prefers synthetic indigo not only because it is easy to manipulate—being in the form of a paste which the dyers find suitable—but also because of its regularity in strength. Mr. Mackenna must be aware how the Foreman Dyers' Guild last year moved Mr. Chamberlain to make arrangements for the supply of natural indigo from India in the form of paste which the dyers prefer. Hence, the problem is not simply agricultural. The manufacturing and the marketing methods also have to be improved.

To turn again to the agricultural problem. When the Sirsiah station failed to cope with the disease, the work of research was taken up at Pusa by Mr. and Mrs. Howard. After prolonged research they held that the disease was due to bad cultivation and long-continued wetness of the soil due to water-logging which destroys the young feeding roots. The disease not only killed the plant but also, when it managed to survive, affected its indican content. In order to save the industry it was necessary to grow Java seed. After much research it was found possible to do so. "For seed, Java indigo should be sown about the middle of August on high-lying, well-drained and fertile land. The seed should be sown in lines about 2 feet apart so as to promote branching and ensure abundant pollination and thorough cultivation and cleaning of the seed beds is necessary. Proper aëration of the soil is essential. The source of the indican is the nitrogen of the air. A full supply of air to the roots is necessary for the production of good seed." If grown in this way the disease is avoided and large crops of good seed may be obtained.

The next problem is the improvement of the crop by selection. This is the most difficult work to do. There is extensive natural crossing in indigo by pollination through bees. "Any plant selected on account of the high indican content of the leaf is not likely to breed true." Further, the ordinary crop contains different varieties, some of which grow much more rapidly and robustly and carry far more leaves than the bulk of the crop. The Howards propose to isolate those individual plants from the mixed crop which grow rapidly and strongly and give the highest yield of leaf. These will be grown separately apart from the other indigo so as to avoid cross fertilization by bees. This process of isolation, it is expected, will, in a short time, give a superior type of plant with a larger yield of leaf and a large outturn of finished indigo.

Our next problem is the improvement of cultivation. The Howards recommend various plans, *e.g.*, Pusa drainage system, harrowing after the removal of the cover crop, etc., for this purpose.

The research work of the Agricultural Departments in Indigo is really marvellous. "The question of seed production seems to have been solved.

. . . . The work is in its early stages. But the preliminary results obtained seem to indicate the possibility of again establishing the crop on a firm basis. . . . The outlook is full of promise."

The recent history of the question is interesting. Dr. F. Marsden, the Madras Dyeing Expert, is not very hopeful. He holds that it is impossible for plant products to compete effectively with modern factory made dyes. But this is strongly disputed. An Indigo Conference was held in 1915 at Delhi to consider the whole situation and it was found that the outlook was distinctly promising. It recommended the appointment of a chemist for the work of standardization and purification of indigo and for its preparation in the form most suitable to consumers. It is at present under the consideration of the Government. Science and capital must combine if the industry is to be saved. Area has to be increased in order that dyers may be sure of getting a continuous supply. If he is not sure of that, he cannot be expected to take natural indigo, even though for many classes of material, better results are obtained with natural indigo than with synthetic indigo.

It has been suggested that the Government of India should insist on the use of Indian indigo in all Government contracts. The Indigo Conference strongly supported it. The matter is engaging the attention of the Government.

We should never allow ourselves to be lulled into a false sense of security simply because the German supply is cut off at present and may remain so in the future by restrictive trade policies. England, America, Japan, Russia and Italy are all of them trying to produce dyes on a large scale at home. In future, therefore, instead of German competition we shall have to meet the highly organized "allied" competition of Japan, Russia, Italy, England and America. The vast new British undertaking—The British Dyes (Limited) at Huddersfield with such powerful assistance from Government will be our serious rival in the future. To survive at all, our industry must be backed by science and capital.

The problem is a difficult one and will require for its solution strenuous energy, a long time and a heavy outlay for research work. We must not forget that nearly 20 years were employed in developing the synthetic indigo and nearly £1,000,000 sterling was spent in research before Germany could produce synthetic indigo.

The question of agricultural education may be briefly touched. Very little has been done so far, though there has been no end of talk. The problem is, first, to give advanced training to teachers, professors and officers of the agricultural departments, and secondly, to provide for a wide diffusion of elementary agricultural training for the actual cultivators. Early attempts in this line made some serious mistakes. Agricultural instruction was combined with the existing system of general education in primary schools—principles of agriculture forming a large part of the curriculum of the village schools. Thus, agricultural education was a part, and not even an important part, of general primary education. The defects of this method are obvious. "Agriculture is not a science in itself but a combination of many sciences. To be understood, it requires a sound general education and a considerable knowledge of science." It was pure folly to burden the infant mind in primary schools by weighting it with crude and ill-digested agricultural knowledge—though the general education might with advantage be tinged by the facts of its agricultural environments. Easy lessons on the cultivation of

rice or wheat or on farm animals might bring knowledge without tears. It is fortunate that the early mistakes were quickly corrected. It was decided that rural education must be general so as to prepare the mind to receive agricultural education later on which must necessarily be technical. Hence agricultural education in primary and secondary schools was abandoned. It is much more necessary to develop in these schools powers of observation and capacity to think and judge so as to enable the students to utilize agricultural education later on when they come to the agricultural college than to make them swallow somehow some crude agricultural principles which hardly produce any lasting effect. The present method of collegiate agricultural education consists of provincial colleges which train students in the principles of agriculture in the college laboratory or in demonstration farms with facilities for specialized work in the Pusa Research Insutute. Otherwise Pusa has little concern with education.

The Report deals with other matters too numerous to be noticed here in detail. All students of Indian agriculture will find this handy Report extremely useful. As a brief review of the work done so far by the Government for the improvement of Indian agriculture, it will dispel many false ideas. The Government has shown that it realizes its responsibilities and has no desire to shirk them. The report of a decade's progress is not only extremely satisfactory but also eminently inspiring. It puts faith in our own capacity and hope in our future. The problem of modern India is largely a problem of her agriculture—the problem of harnessing the omnipotence of her soil. He who recreates our land will recreate India. We can only conclude with a fervent hope that a still more encouraging report may be given by our agricultural departments when, ten years hence, the question is asked again—Watchman! What of the night?

B. MUKHERJEE.

A SURVEY AND CENSUS OF THE CATTLE OF BENGAL.—By J. R. BLACKWOOD, LL.B., I.C.S., Director of Agriculture, Bengal.

THIS is an exceptionally well written and interesting report on a very important subject. Government has long been considering the problem of improving the breed of cattle in Bengal. In November 1911 Mr. Blackwood was placed on special duty to carry out a general survey of cattle in the Eastern Bengal districts. Later, he had to deal with the Presidency and Burdwan districts as well. The results of his labours are now presented to the public in the report under review.

Before considering this instructive report and the proposals which it embodies, we may glance at the past action taken in the matter. A great deal of information on these earlier efforts and conditions is contained in the report of Mr. P. J. Kerr (Superintendent, Civil Veterinary Department, Bengal) published in 1913 and by an article on the "Improvement of Cattle in Bengal" by Mr. Shearer in the *Agricultural Journal of India*. For a quarter of a century Government has been making "a determined and continuous effort" to improve the breed of cattle. There were schemes for improving cattle by awarding prizes at cattle fairs and shows and there were cattle exhibitions at Kalimpong, Suri and other places. But Mr. Blackwood does not rate the results of these exhibitions very high and says that "it is

doubtful whether cattle shows will really induce cultivators to take trouble to rear good cattle when they would not otherwise do so." Other measures had also been employed. From the farms at Pusa and Siripur bulls were supplied on request and efforts were made to revive the Patna breed of milch cattle. Unfortunately, while the demand for the supply of bulls was heavy, their numbers were scanty. Further, the efforts were less successful than they should have been through want of co-operation of the local people and the absence of any system of management or of proper treatment of the cattle. Mr. Shearer remarks in his valuable paper: "The area of the province is enormous, and at the best, only a comparatively small portion of it can ever be supplied with these better bred bulls. Unless the cultivators can learn the lesson of what can be done by selection and breeding, and themselves carry on the work, little permanent improvement can be looked for. The weakness of the present method of improvement (apart from the impossibility of supplying more than a fraction of the number of bulls required) is that all the attention is being concentrated on the bulls, while no account is being taken of the cows. However good the bulls may be, no good stock can be produced if the cows continue to be starved and neglected as they are now; and there is little doubt that they will continue to be starved and neglected until the cultivator obtains a better cow. The fact is, that at present the average cow is such wretched specimen that the cultivator cannot afford to feed her better than he does. Practically, the only return which she gives for her feed is her calf, and that is not enough."

The present condition of the cattle in Bengal is thus described by the same observer: "If we except Shahabad and certain portions of North Behar, where a fair number of moderately good cattle is produced, the condition of the cattle in Bengal could not well be worse." This state of things is due to various reasons which are well discussed by Mr. Blackwood. The climate of Bengal is unfavourable to the development of strong and vigorous cattle. Secondly, the amount of grazing ground available for cattle is very limited. "In this country the common experience is, that the quality of the cattle varies inversely with the intensiveness of the cultivation, and hence it is hardly surprising that Bengal cattle are the worst in India. It is almost entirely a question of food supply. For many generations, the cattle have been consistently starved, and the result is seen in the degenerate specimens existing to-day. Over the greater part of the Bengal plains grazing is very limited." In this matter of reserving grazing grounds less could be naturally expected of the tenants and more of the Zemindars who have larger means, and one would think, larger views also. But on that question the Bengal Landholders' Association contented itself with referring to "the comparative helplessness of the Zemindars" and suggested "a recourse to legislative action on the part of the Government." Government purchase of land to be reserved for grazing can, however, touch only the fringe of the question, and even if there was thus made some addition to the grazing area, the objection suggested by Mr. Blackwood stands, that the cattle would soon multiply and become too numerous for the extra land. The problem is a very difficult one not only in Bengal but in the United Provinces. Mr. Moreland thus speaks of the great difficulty of solving it: "When, however, the question of legislation to protect grazing grounds came under discussion, there was a marked divergence of opinion: the representatives of the cultivated districts desired to have the large grazing grounds protected by law, but this was strenuously opposed by the representatives of those interests, who in turn

recommended the reservation of grazing areas in the cultivated districts, a proposal that was opposed by some of the representatives of the cultivated districts. Eventually no agreement could be come to on this question, and the present position is likely to be maintained: the larger landholders voluntarily preserving the existing grazing grounds, though objecting strongly to being compelled to do so, and the smaller men breaking up the land for cultivation until the necessary adjustment in prices ensures its retention for grazing." There can thus be only two solutions to the problem of grazing grounds; either, as Mr. Moreland says, the price of cattle may rise until the necessary adjustment of price ensures the retention of waste land in grazing, or the excellent plan suggested by Mr. Blackwood may be adapted. He suggests the adoption of mixed farming so as to give a stimulus to the growth of fodder crops.

Other causes adverse to proper cattle-breeding in Bengal, are, the deficiency of suitable breeding bulls, the destruction of a great number of Brahmini bulls, the practice of castrating bulls at a comparatively late age and the small proportion of the cow's milk which is reserved for feeding its calf.

Mr. Blackwood would improve the cattle of Bengal on two main lines. By a system of dairy farms situated in the neighbourhood of large towns, he would develop the breeding of superior milk-yielding cows, draught-bullocks and serving bulls. Mixed dairy farms are to be used both for the supply of milk to towns and for cattle-breeding, thus reducing the cost of producing cattle. As to the class of animals to be employed, Mr. Blackwood's view is to improve the indigenous breed "by crossing with superior but nearly allied species." The attempts to import and acclimatize larger animals from other provinces have failed. For crossing, the animals should not be too distinct in species. As to the agency employed in the work, Mr. Blackwood advises that Government should point the way, but the *gowalas* should also be brought into the scheme, and co-operative societies should be started to produce and distribute milk. The people in general should be educated in the better management of cattle.

The second recommendation of Mr. Blackwood deals with the supply of breeding-bulls. Government can set an example of the best way of working out this problem in small experimental areas. For the rest the agency of Local and District Boards and Union Committees should be employed. This cannot, however, do much good unless measures are taken to improve the cows as well.

Mr. Blackwood has successfully diagnosed and described the conditions which have caused the deterioration in the cattle of Bengal, and if his sound and well thought out suggestions could be followed, a very important and difficult problem would be solved. Action on the lines indicated by him should not, however, be delayed, for the danger of further deterioration of the cattle in Bengal is a serious one. As the Bengal Administration Report for 1911-12 says "the complaint is general that the cattle are degenerating. The alleged causes are want of food, and sufficient pasture, careless and promiscuous breeding from inferior bulls, starvation of calves and young stock, and the castration of the best young bulls. The cattle, as they now are, will tend to deteriorate steadily."

J. C. C.

STATEMENTS SHOWING THE PROGRESS OF THE CO-OPERATIVE MOVEMENT IN INDIA DURING THE YEAR 1914-15.

REPORT ON THE WORKING OF THE CO-OPERATIVE SOCIETIES IN BENGAL FOR THE YEAR 1914-15.

A SPECIAL feature of this year's Bluebook on India Co-operation is the inclusion in it of a Population Map of India, specially designed by Major E. A. Tandy of the Survey of India Department to show not only the densities of population but also to illustrate the progress of the Co-operative movement in India. The population is first shown by rectangular compartments in blue, and co-operative information is then surprinted in red circles. The final result is very satisfactory. There is also a graphic chart showing the gradual rise in the number of societies and of members and indicating how Capital is now increasing slightly faster than membership, being now Rs. 100 per member. The Statement fully reveals to us the stupendous magnitude of the Co-operative movement in India with its capital of about nine crores of rupees and its membership of about nine lakhs. The total number of societies has risen during the year to 17,327 as against 15,673 during the previous year. There are 397 Central, 914 Non-Agricultural and 16,016 Agricultural Societies. Of these 16,016 Agricultural Societies, 15,861 are Agricultural Credit Societies. It will thus be seen how the progress of the Co-operative movement so far shows only a one-sided development. This is, however, not to be wondered at. For, as the Maclagan Committee report, "the chief object of co-operation in India was to deal with the stagnation of the poorer classes, and more specially of the agriculturists, who constitute the bulk of the population." It is well known that the chief object held in view from the beginning has been to provide reasonable credit from small agriculturists who represent the backbone of the Indian polity. "The problem of agricultural credit," runs the Government of India Resolution of 1914, "has been looked on as more urgent than that of industrial credit, and the efforts of Government have been mainly devoted to the relief of the small agriculturists." The Government acted rightly in doing so, for it has been a universal experience that the development of credit co-operation normally and naturally leads to the development of other forms of co-operation. Indeed this very Statement shows how gradually other forms of co-operation are being introduced into India. For we have at present a number of Agricultural and Non-Agricultural Production and Sale Societies and Cattle Insurance Societies. But the number of such non-credit co-operative societies is still extremely small. It is true that the real motive which had inspired the Co-operative movement in India had been the desire to benefit agriculture. But—as the Maclagan Committee rightly declare— "this policy of the Government of India, though wise, in the initial stages and fully justified by result, might now with advantage be relaxed and the development of non-agricultural societies encouraged to proceed *pari passu* with that of agricultural societies."

The total income of the Agricultural Societies amounts to nearly Rs. 374 lakhs as against an expenditure of nearly Rs. 356¾ lakhs. In the case of Non-Agricultural Societies, the total income of the year, including the opening balance, is over Rs. 193 lakhs, which, after deducting all the disbursements, leaves a balance of 6¼ lakhs. Thus, taking all the societies together, the net

balance in hand at the end of the year amounts to Rs. 45¼ lakhs, which shows an advance in the operations of the societies as compared with Rs. 35½ lakhs at the close of the previous year.

As regards the number of societies it is interesting to note that the Punjab with her 3,337 societies beats all other provinces, while Bombay is the only major province of which the number of societies falls below a thousand. But it is significant to note that Bombay has, next to the United Provinces, the largest number of non-agricultural societies. Another interesting fact is that Madras with her 1,600 societies and the United Provinces with her 2,962 societies have almost identically the same number of members, *viz.*, 119,000.

The Co-operative movement in Bengal shows slow but steady progress. The difficulties created by the outbreak of the greatest war in history—and the dislocation of business generally made them very serious in Bengal at the end of 1914—were met everywhere "with a gratifying resourcefulness and enterprise." At the end of the year the Registrar could record an increase in the number of societies from 1,661 to 1,992. The membership increased from 90,328 to 107,118, and the working capital from Rs. 89,38,265 to Rs. 1,10,01,617. Of late years the increase in the number of societies has been viewed in some quarters with considerable misgivings. But, as the Registrar emphatically points out, "an increase in the number of societies does not necessarily mean unsound organization, nor does it in any way imply that the important work of consolidation has been neglected." Concentration and development should proceed side by side, while rigorous tests should be applied to existing societies. We are glad to find that the Registrar fully realizes this and clearly recognizes the undoubted need of educating the members in co-operative principles.

In Bengal, as in other provinces, agricultural societies far outnumber non-agricultural ones; for, out of the 1,992 societies 1,862 belong to the former class. The Registrar reports how co-operation has everywhere broadened the outlook of the members, how disputes are now settled out of court by arbitration, how co-operative societies are everywhere encouraging a demand for education—how, in fact, co-operative societies are giving the members a new interest in life.

While he describes these achievements of Bengal co-operation, the Registrar, we are glad to find, is not blind to its weak spots. Illiteracy is undoubtedly a hindrance to the progress of the Co-operative movement, but the Registrar shows that even literacy does not help in furthering it. He says "the nature of education which is meted out to the sons of the cultivators in village schools, instead of developing character, stunts their moral sense and encourages a tendency to live more on wits than on manual labour and easily converts men, who would have been otherwise honest, into petifogging touts." This requires investigation and remedy. The Registrar also refers to "the self-seeking propensities of the managing committees," "the temporary misappropriation of cash balance by the Chairman," the unpunctuality in repayment and the admission of undesirable members. The Registrar is determined to remove these defects by every means in his power.

There are 84 non-agricultural societies, of which five are Weavers' Societies with unlimited liability, three non-credit and the remaining 76 credit societies with limited liability. It is interesting to note that all the

societies in Calcutta with the exception of the Anglo-Indian Society fall within the Employee's Society class and the most prominent are the East Indian Railway Society and the Bengal-Nagpur Railway Urban Society. There are in Bengal new and promising kind of societies, *viz.*, the Co-operative Grain Banks or *Dharmagolas* which lend out paddy during the sowing season and collect it after harvest. Three such societies have been started: they deserve wider trial. We may refer here to another new co-operative experiment in Bengal, *viz.*, the Lakshikole Co-operative Sugar Factory, which is working very satisfactorily. The attention of the Registrar has been directed towards the establishment of Weavers' Societies and Supply Societies: they have a great future in Bengal and we shall be glad to read records of further progress in these lines.

It is always pleasing to read Rai J. M. Mitra Bahadur's Annual Reports which reveal his intimate acquaintance of all the details of the Co-operative movement, his whole-hearted interest in its successful development and his undoubted ability to discharge the heavy duties of one of the most important departments under Government. We can confidently look forward to a most healthy development of the movement under his watchful care.

PANCHANANDAS MUKHERJI.

REPORT OF THE LAND REVENUE ADMINISTRATION OF THE PRESIDENCY OF BENGAL FOR THE YEAR 1914-15. (Bengal Secretariat Book Depot, 1915).

THIS report has a very wide scope and contains a great deal of information about the collection of land revenue and other revenue work in Bengal. It records the important work done by the Government in the way of irrigation and drainage, in the direction of giving loans under the Agriculturists' Loans Act, in the spread of education on Government estates and in improvement of roads and communications. It has much to tell us about the Zamindaris, their circumstances and their partitions and about the relations prevailing between landlords and their tenants. It supplements the above great mass of information by succinct and accurate studies of the condition and prosperity of the people of Bengal and of the economic developments which have taken place in the province during the current year.

The total current revenue demands of the year rose to Rs. 2,73,67,531 and this rise of two lakhs above the demands of the last year were due to new settlements, resettlements and the progressive increase of demand in the temporarily settled areas and in Government estates. In the permanently settled estates the current collections amounted to 99 per cent. of the total demand in all but three districts. In the temporarily settled estates the total collection represented 95·13 per cent. of the current demand. But on Government estates the total collection represented 71·33 per cent. of the total and 87·02 per cent. of the current demand. The reason of this is that the bulk of remissions was allowed on the estates held directly by the Government. The outbreak of the European war affected the collections through the depression of jute trade and the stoppage of credit. It remains to be added that on

its own estates Government spent a lakh and a half on miscellaneous and sanitary improvements, Rs. 64,000 on education and more than two lakhs on roads and communications.

The reader may be reminded that the total collection in the present year represents about 93 per cent. of the total demand. There were 13,713 defaults and of these estates or shares of estate 861 were actually sold. The "certificate procedure" was applied in 59,560 cases; of these, attachment was necessary in the majority of cases but actual sale was necessary only in very few cases, and only ten persons were imprisoned for non-payment of Government dues.

The question of amending the Partition Act so as to shorten and improve the procedure has been under consideration for some years. In 1913-14 the system of carrying out partition under Act V of 1897 through the agency of the Settlement Department was tried; but this procedure had to be given up after a trial in three districts, for, as the Government Resolution of that year states "the delays caused by the procedure of the existing partition law seriously hampered the preparation of the Record-of-Rights." The amendment of the Partition Act as an urgent necessity is shown by the fact that in 1914-15 "only 43 cases were disposed of, leaving 275 pending at the close of the year." In the previous year 265 cases were pending towards the end. The number of cases pending has thus had a tendency to grow: it was 163 at the end of 1910-11.

As to advances under Agriculturists' Loans Act and Land Improvement Loans Act, a high water mark had been reached in 1913-14 when the total advances amounted to four lakhs of rupees out of which three lakhs were on account of "loans granted in the areas affected by the flood." The same year there was a very tangible reduction in amounts overdue. It is a general complaint year after year that the amounts overdue are very large especially in some districts like Nadia.

The problem of how to deal with waste lands is a very important one and the policy followed with regard to them by the Government of India has received high praise from prominent economic experts. Thus Professor Pierson in his "Principles of Economics" pronounces a high eulogy on the rules as regards waste lands in force in India. He singles out as an example the rules in force in the Jalpaiguri and Darjeeling districts by which waste lands are not to be alienated outright, but are offered at first for a preliminary lease for five years and then for a thirty years' lease. Alienation, at least in the early stages is not to be recommended, especially as the prices fetched when the State offers large lots of sale are bound to be low. The Dutch are already preparing schemes to avert the alienation of the land which will be reclaimed when the Zuider Zee is drained. Baden Powell also approved of the change of policy from one which alienated the lands outright to the modern one of leasing them for periods which allow ample time to develop the cultivation while reserving the necessary rights of the State. It is only at a much later stage that the lease right should be converted into a duly circumscribed right of ownership.

The above discussion is interesting when we come to consider the question of waste lands in the 24-Parganas and Khulna portions of the Sundarbans. The report of 1911-12 states that "the number of leases granted under the rules of 1853 in the 24-Parganas and Khulna portions of the Sundarbans was

131. The rent payable under them is Rs. 1,33,447, which will eventually rise to Rs. 1,35,802. The rules for the grant of waste lands in those districts are still under suspension, and draft rules to be substituted for them are under the consideration of the Government. The number of leases in the 24-Parganas under the large capitalists' rules was 188 as in the previous year. The rent payable under them is Rs. 70,329, rising eventually to Rs. 2,35,111. In Khulna the number of leases under the large and small capitalists' rules was 22 and 9 respectively. The eventual maximum rent expected from the former is Rs. 22,206 and that from the latter Rs. 14,916." In 1914-15 the number of leases granted under the rules of 1879 and 1853 is the same as last year, *viz.*, 188 and 93 in the 24-Parganas and 22 and 38 respectively in Khulna. There is a long history behind these figures and rules. In 1879 the rules of 1853 were revised so as to provide a rent-free period of ten years instead of twenty years and there was only one condition made as to clearance, *viz.*, that one-eighth of the grant should be reclaimed in five years. Two sets of rules were made, one for the large capitalists who wanted plots larger than 200 bighas in extent, the other for smaller men who would need plots between ten and seventy-five bighas in size. This arrangement as to the capitalists led to the growth of system of middlemen and to land speculation. In 1904, therefore, an experiment was made in the direction of a *raiyatwari* settlement with the smaller men. The experiment was successful in Backergunge but not in the 24-Parganas where there was contemplated a reversal in 1910 to the old system of capitalist rules. Last year "the Hon'ble Mr. C. J. Stevenson-Moore visited the Sundarbans and after studying the methods adopted in the past in the 24-Parganas and Khulna Sundarbans as compared with those which have been so successful in the Colonization area in the Backergunge Sundarbans, he submitted a complete note on the development of the tract and proposed *raiyatwari* settlement in certain areas." In Backergunge the Colonization scheme has been very successful. In 1913-14 there was a decrease of new colonists to 239 from 715 in the year before; and it was believed that the first rush for the good land was over. But in 1914-15 there was again an increase of the new colonists to 535 and the bighas occupied also were more than double those in 1913-14. The movement is encouraged by the growth of Co-operative Credit Societies which now amount to seventeen. Arrangements are also being made to improve the communications. The climate of the Sundarbans is also reported to be steadily improving.

As the Government Resolution observes, the Bengal Tenancy Act continues to work smoothly. But the practice of levying illegal cesses still widely prevails in the Presidency, and there are many varieties of these exactions. Thus, in some districts, the roads and public works cesses are levied from tenants at double the rate allowed by law. In a few places there is still levied the "marcha," which is a fee payable to the landlord by a tenant on the marriage of a child. This reminds one, by a singular coincidence, of the "merchet" levied by the barons in feudal England. There is also the "bhikha" or "benevolence" which is a variety of forced alms paid to impecunious Zamindars. The tenants, generally, pay these exactions rather than submit to other harassments. But the Commissioner of Dacca observes that the tenants are learning to resort to combinations to protect their own rights and they are helped in this by the Record-of-Rights. Though the relations between the Zamindars and tenants are still occasionally strained and though we read of the exploiting of the Santal tenants in particular, still, it is gratifying to learn that during the economic stress caused by the present

war the Zamindars in general have been showing a sense of responsibility and have dealt with their tenants in a spirit of sympathy.

The outbreak of the present war adversely affected the economic condition of Bengal in various ways. With a record jute crop and a slump in prices the cultivators lost heavily, though some of them gained through the high prices of rice. The landlord class suffered because of the difficulties in realizing rents; while the professional and artisan classes were injured by the high prices of food and other necessaries. Mainly on account of railway construction, however, the demand for labour kept steady. Consequently "labourers were in a better position than the smaller artisans in minor industries, which were more or less affected by the war in Europe."

Looking at the economic developments of the year we find that the war disturbed industries less than might have been supposed. Thus we find that the Asansol coal-mining and other industries were not seriously affected and that the mills and factories of Howrah of Sadar and Barrackpore worked actively. But some industries felt the strain of war conditions and among these we may include the silk trade of Murshidabad, the betel and cocoanut trades of Backergunge and the hide business in Chuadanga. On the other hand the manufacture of molasses in Faridpur and that of sugar in Jessore were stimulated by the rise in the price of sugar caused by the war.

J. C. C.

REPORT OF THE COMMITTEE OF THE BENGAL CHAMBER OF COMMERCE FOR THE YEAR 1915 (Preliminary Issue).

THE report of a body of commercial experts representing the business men of the first city in India must always be very instructive reading for the student of economics. Indeed the set of reports of the Bengal Chamber will form an important part of the material which the future economic historian of India or of Bengal will utilize. The whole report will repay careful study; but here we can touch only a few of the more important topics on which the Committee was called upon to advise.

Very important work was done by the Committee on questions arising out of the war conditions. Last year it dealt with topics like the Moratorium Question for India, the question of British and neutral cargo on board German or Austrian steamers detained or captured by Great Britain or her allies and with the introduction of a system of certificates of origin in the case of imports and of declarations of ultimate destination of exports. This year there is a crop of questions of equal importance. Thus, the Committee did good service in emphasizing the necessity of exercising control over all class of enemy subjects and of carrying out the liquidation of those trading concerns licensed to do so. with all possible expedition and despatch. The Committee has also broached the subject of the control of enemy trade and enterprise after the war, but has concluded, wisely and in a spirit of caution and moderation, that even should the Government ultimately decide such a control to be necessary, the matter will require very careful consideration. As to the Royal Proclamation of 7th January 1915, as regards trading with the enemy, the Committee submitted to the Government that its extension to India was unnecessary, regard being had to the restrictions already placed on Indian trade which constitute ample safeguards against dangers of the kind contemplated. The

Government ultimately did not consider it necessary to extend the Proclamation to India. On the question of appointing officers to perform the duties of custodians of enemy property, the Committee agreed that the appointment of such officers would, to a certain extent, be a measure of utility to the commercial public, but it submitted that they should not be vested with powers of compulsion. These views were reflected in the legislation which followed on the subject. With regard to the Wheat Scheme the Chamber agreed that it would attain its object of reducing the wheat prices, and the course of events has shown the soundness of this view. The Committee also performed the useful task of obtaining such information and statistics about the hide business in India as might be used in England for the guidance of English importers. This was part of a promising effort to enlarge the mark t for Indian hides.

The Government published an order on the 3rd March by which vessels carrying contraband "to order" to neutral countries became liable to detention. To avoid the resulting inconvenience the Government enquired of the Chamber whether a certificate of destination endorsed on the bill of lading by the Customs authorities of India would meet the difficulty. The Committee pointed out that the bill of lading is not always on board, and, in any case, they suggested a modification which would be preferable to an endorsement. On the important subject of the impressment of steamers by the Government of India, the Committee made various recommendations to meet the convenience of shipowners, which were duly considered.

But advising on problems arising out of the war was only a part of the work of the Chamber. It had also to consider a great deal of economic legislation. Thus, it expressed approval of the bill enabling occupancy raiyats to transfer their holdings, and of the amendment to the Trust Act which extended the powers of trustees in the matter of investment of trust funds. It withheld its approval from the proposal to establish a city court in Calcutta, arguing that much of the present delay and expense could be avoided if proper use was made of the sections of the Civil Procedure Code dealing with "discovery and inspections" and "interrogatories and replies." It supported the Upper India Chamber of Commerce in the proposal to exempt cotton ginning and pressing factories from the provision of Indian Factories Act as to Sunday working, on the ground that their work was of a seasonal nature. On principle, it also supported the Bombay Committee's view of providing an interval in the six hours period of work for children in factories, such interval to be used for educational purposes.

The work of the Inland Transport Sub-Committee may also be briefly noticed. It recommended that the standard gauge should be extended from Santahar to Siliguri at once and this proposal received support from the Government of Bengal. It was a good thing, under the circumstances, to oppose the construction of a metre line, and the Chamber did well to stand up for present efficiency and ultimate cheapness; but, of course, in war time the disposable supply of capital is small, and that is a very important consideration. In another matter the Chamber discussed what is a corollary of the principle of "charging what the traffic will bear." The Indian Railway Conference Association has been studying the problem of simplifying the goods tariffs of Indian railways. While the railways have done their best to put a large number of items in a lower class than hitherto, it is only proper to enhance the rates on some articles in which both the actual and potential traffic is

small and not capable of expansion. The process of lowering railway rates finds its justification only in the possibility of tapping larger underlying strata of traffic; and where there is no such possibility neither the public nor the railways have any interest in retaining lower rates, especially if they stand in the way of a much-desired simplification of tariffs.

We have glanced at a few of the interesting items in the Committee's Report, but it contains many more of a similar nature, and the economic student will do well to look through this annual *resumé* and storehouse of economic thought and activity in Bengal.

REVIEWS.

ECONOMIC GEOGRAPHY.—By JOHN MCFARLANE, M.A., M. Com. (Sir Isaac Pitman and Sons, London: 1915, pp. 560).

THE publication of this book by Mr. McFarlane, who has been lecturer on Economic Geography in the University of Manchester since the Department of Commerce was started, makes available for the first time to the economic student a complete and at the same time sufficiently brief study of the economico-geographical features of the countries of the world.

Economic geography is apt to be regarded as an extremely dull, if not an entirely profitless, subject of study consisting mainly of a bare catalogue of facts relating to the physical features and economic products of different countries.

Properly regarded its main task is not so much to give a descriptive catalogue of disconnected facts as to find causal connections between those facts. It is, of course, generally recognized that the geographical position of the various extractive industries, as also in lesser degree the manufacturing industries, is largely determined by the physical qualities of the places concerned. It is only by a thorough examination of these qualities and a careful estimate of their relative influences that it is possible to decide how far particular industries are confined by nature to certain localites or may be set up with success in other places.

In a country like India where economic expansion is vaguely possible in many different directions and over a wide tract of territory it is of the first importance to study carefully the economic geography of the various districts in order to secure the co-operation of nature rather than engage in fruitless efforts against her.

Economic geography is still a young subject and Mr. McFarlane here gives only a general handbook for its study. But it will be found the best and most up-to-date work for this purpose.

C. J. HAMILTON.

AN INTRODUCTION TO THE ECONOMIC HISTORY OF ENGLAND. THE MIDDLE AGES.—By E. LIPSON (London: A. & C. Black, 1915).

MR. LIPSON'S book is a work of rare erudition, and incorporates no small amount of original research and thought. It was a great achievement in itself to bring together in an eminently readable form "the large accession of printed materials for the study of English economic history." The arrangement of the book leaves little to be desired so far as clearness and lucidity

are concerned; and even a generation which has been accustomed to the wonderful charm of exposition possessed by Professor Ashley might well appreciate Mr. Lipson's method of treatment.

The work opens with a study of the origins of the Manorial System. Following the line of thought of Maitland and Vinogradoff, the author decides generally in favour of the view that the main stock of cultivator of English soil was originally free. At the same time the element of truth in the arguments of the Manorial School is not altogether neglected. As is well said: "No theory of the manor is tenable which lays stress upon one aspect to the entire exclusion of the rest. Occasionally the private estates of the pre-Saxon period survived to form the basis of the mediæval manor." This is satisfactory so far as it goes, but surely Roman influences in the process of manorialization might have been further emphasized. However, as Professor Ashley says, "we are still a long way off the final and satisfactory adjustment of the various elements which are clearly involved in the problem." The fiscal and economic forces leading to manorialization are admirably treated, as also the influence of the Norman Conquest upon the agricultural system of England. More, however, might have been made of the unification of national life after the conquest, as also of the social aspect of mediæval country life. In a future edition a study might be made of these aspects of the age, and also of mediæval thought on economic matters.

The break up of the mediæval organization of the manorial life is then described, and it is shown how the break up was accelerated by the Great Pestilence and possibly by the Peasants' Rebellion. The enclosure movement with its economic causes and effects is excellently treated but the rather narrow chronological scope of the book does not allow of any general treatment of the commercialization of English land. The author restricts his view too rigidly to the economic conditions of England; and without studying the parallel conditions of the Continent it is not possible to approach what Ashley calls "one of the main subjects of attention in English economic history—*viz.*, the removal from the land of that class of small peasant cultivators which is still so conspicuously attached to it in France and Germany." Such a study has been attempted by Ashley himself in his essay on the "Comparative Economic History and the English landlord." The agrarian movement under the Tudors is best studied as the beginnings of the transition to modern conditions in England. It is a pity that Mr. Lipson gives so little space either to foreign economic conditions or to the foreign economic writers who have done so much service to the cause of the economic history of England.

To the early history of English boroughs valuable contributions have been made by Maitland, Round and Ashley. Mr. Lipson's chapter on the subject brings their account up to date and gives us an able and vivid account of the struggle of the boroughs in the twelfth and thirteenth centuries for emancipation from feudal and political control. It is interesting to find that it was far more difficult to wrest concessions from the Church than from the secular lords. The problem of the increase of population and of wealth in the towns has, however, not been treated adequately by Mr. Lipson; but the next chapter on Fairs and Markets is a masterly contribution. The chapters on the Gild Merchant and on its relation to the Craft Gilds are also excellent, though the subject of the transition from the former to the latter is still a matter of controversy. Brentano's view is that Craft Gilds were formed to protect

craftsmen against the tyranny of the Gild Merchant. Ashley's opinion is that the Craft Gilds represent a revolt against the monopoly of landed burgesses. Mr. Lipson argues that the antagonism was not of an economic but of a constitutional nature. The view is interesting and novel, but cannot be said to have been indisputably established.

What were the merits of the Gild Economy, and how far was the gild ideal actually realized? A just view of this is taken by our author, who observes that "the gild system had certain qualities which may still afford an inspiration to our age and certain defects which may still furnish a warning." He defends the gilds against the charge of monopoly by urging that in their earlier stages they cannot be blamed for excluding from their privilges those who were reluctant to share their charges. He might have added that monopoly was only one phase in the history of gilds, and in the main only a latter day phenomenon, which was by no means a simultaneous and all-pervading feature of the whole group of gilds. The gilds deserve to live in economic history as the only voluntary attempt to protect the interests at once of the public and of the member of the crafts. There might have been a historical connection between the gilds and trade unions of which much more should have been made by Mr. Lipson. But will the history of the future carry on the parallelism to its logical consequence? The gilds fell when commerce and industry ceased to be local and became national. Will the trade unions also lose their powers when the nation consciously undertakes the solution of the problem of the wage-earning classes?

Two of the most important chapters in the book deal with the rise and growth of the woollen industry and the early history of England's foreign trade. The latter chapter deals with the neglected beginnings of that trade and with the period of alien merchants. Its merit is very high when the Merchant Staplers and the Merchant Adventurers have their activities chronicled. In some things, however, more might have been said. The capitalizing of other industries besides the woollen might have been narrated. The expansion of trade through the consolidation of the Norman rule and the Crusades, and the growth of the money economy in England have not received their due. Moreover, with the triumph of the Merchant Adventurers there was, as Ashley would put it, "the advent on a considerable scale of a new factor in English economic development, the factor of capital."

It would be a long task, however, to emphasize all the strong points of the book and to make all the suggestions which one would desire as to its amplification. A second edition of such a valuable book must soon be demanded, and the author will do well to add new chapters to it and to treat other topics besides the well-worn ones. His great learning will enable him to do full justice to aspects of mediæval economic life which have not yet been exhausted or even touched. Meanwhile, our students can be trusted to appreciate the privilege of possessing such an attractive text-book, and it is also to be hoped that they will not neglect the wealth of valuable references furnished at the foot of almost every page. The second volume of the work, which the author contemplates, will, one may be sure, maintain the high ideal of learning and research which has been kept up throughout the first volume.

J. C. COYAJEE.

POPULATION: A STUDY IN MALTHUSIANISM.—By W. S. THOMPSON, PH.D. (Columbia University Studies).

WE are indebted to the Columbia University for many very able monographs on economic topics, and Dr. Thompson's book can take rank with the best of them. The doctrine of Malthus has constantly to be re-stated and re-tested in accordance with changes in economic environment, and Dr. Thompson's contribution is to be welcomed as one more scholarly attempt in that direction. One noteworthy feature of the work is the history of the doctrine of Population in modern authors; another is the statistical and comparative study of the growth of population and the increase of food supply. The attempt to measure statistically how far the law of Increasing Return in manufactures can at present offset the tendency towards Diminishing Return is also a highly commendable one, though the results cannot be taken as decisive or final in any way. Even those who differ widely from Dr. Thompson as to the results will admire the large collection of material and the able and suggestive way in which it is marshalled. As Cohn had put it, we wanted some one to "furnish us with definite concepts in place of the Malthusian tendencies, and with exact quantities instead of nebulous magnitudes." This is what Dr. Thompson has attempted to do.

The author begins by stating—or rather by restating—the Malthusian position. It is analysed into two main propositions. The first proposition is that "the supply of labour tends to increase faster than the demand for it, except under unusual conditions." The second part of the thesis is that "if the supply of labour was tending to increase faster than the demand for it, there would not be sufficient of the necessities of life to go around, and the result would be a lower class which was always suffering from a lack of them." To these two main propositions, Dr. Thompson adds a third, to the effect that, in the opinion of Malthus, the suffering due to this cause would become proportionately less as civilization advanced. Obviously this is a liberal interpretation of the Malthusian doctrine. It neglects many controversies as to the difference between the enunciations of the "principle of population" in the first and second editions of Malthus' Essay, as to the importance to be attached to the Geometrical and Arithmetical ratios, and as to the degree in which the reasoning of Malthus was based on an inkling of the law of Diminishing Return. Thus, in one sense, Dr. Thompson gives us a rather broad restatement of Malthusian doctrine. And yet, if we look to the stage reached by the principle of population in our days, the restatement is not broad enough. As Dr. Cannan has remarked, with Malthus the question of population was about the comparative rapidity of the increase of population and of the increase of the annual produce of food, but with us it is a question of density of population and productiveness of industry in general.

Moreover, while the author has made an intensive study of the relation of population to food, he has left almost untouched the relation of population to wealth. Professor Fisher has shown that "a decrease in *per capita* wealth will tend to increase the death-rate and decrease the birth-rate. That is, the decrease in *per capita* wealth checks the increase of population." Further, as the same authority has argued, there has come into more definite operation what Malthus called, "the preventive check" on population. Among certain classes an increase of wealth tends to check the growth of population; so that

we can speak not only of a "poverty check" to population, but also of a "wealth check" to population. But the operation of this new check is not wholly a matter of congratulation; since it brings with it the possibilities of degeneration and depopulation. It is a pity that Dr. Thompson does not deal adequately with the question of these various checks and their operation. With his learning and statistical information an excellent study could have been made of them. He deals very inadequately with other factors mitigating the danger of over-population. Thus, he merely mentions Spencer's view that "the fertility of the race diminished with its intellectual and moral development," and then contents himself with quoting Dr. Newsholme's remark that this view of Spencer is of doubtful validity. The question of race-suicide, too, is hardly dealt with at proper length.

Various arguments are brought forward to show that population is growing more rapidly than it should, compatibly with rational social control. Thus, he argues that in England real wages have been falling and "the condition of the wage earner in the United Kingdom has not been growing better since 1900." While it is not attempted here to deny the validity of this argument, yet too much might easily be made of this as a proof of the strong action of Diminishing Returns or of the growth of population. A further analysis of the period would have shown that in the period 1900-1904 real wages in England were stationary; in the years 1904-1907, they were falling; in 1907-1910, they were stationary; and in 1910-1912, they have been rising a little. This is the result of the study made by Mr. W. T. Layton on the subject of wages in the United Kingdom. It is a familiar fact that when prices rise, wages lag behind for a time; and due importance should be given to that tendency. If we include a much longer period in our view, we see that the rise of real wages since 1810, has been almost uninterrupted except for the short periods 1873-1879 and 1900-1910. It has also to be remarked that the higher costs might be due not so much to exhaustion of soil, as to what Mr. Layton calls "an overdevelopment of the manufactures in the last decade or so." This shows, of course, a sort of diminishing return, but one due to miscalculation, and as such remediable. Prices have been affected by other factors too. Rise of prices, decline in number of cattle, and unhealthy extension of agriculture of which Dr. Thompson speaks, have been attributed, to a considerable extent, to protection by Herr Gothein.

Dr. Thompson's figures as to the growth of population refer only to the leading European countries. He might have strengthened his case by arguing that in other countries too, where European hegemony has been established, population has rapidly multiplied. This view has been ably established by Dr. Wilcox in the *American Economic Review* for 1915.

One can agree with Dr. Thompson that in future one important task for men will be too simplify their present standard of living. But that time has not yet come for the majority of workers. As Dr. Marshall observes: "It remains true that, taking man as he is, and has been hitherto, in the Western world the earnings that are got by efficient labour are not much above the lowest that are needed to cover the expenses of rearing and training efficient workers and of sustaining and bringing into activity their full energies." At the same time as Dr. Marshall admits, the example of Japan shows that some of the more expensive and conventional necessaries might well be given up.

Difference of view on particular points does not prevent the critic from offering his homage of admiration to Dr. Thompson's work. It is a most important and up-to-date contribution to the theory of Population.

J. C. COYAJEE.

INDIAN FINANCE, CURRENCY AND BANKING.—By S. V. DORAISWAMI.

WE have received for review a small book with this very ambitious title. The book is a reprint of articles that appeared in some Indian newspapers and magazines on various occasions. We find consequently a lack of unity and cohesion in the treatment of many important topics of which the book merely touches the fringe. The author has given a chapter on elementary principles of money and a descriptive account of the currency systems of advanced countries. This, amongst other things, leads one to the inference that the book is meant for laymen uninitiated in the intricacies of monetary science and for university students who wish to have a general acquaintance with the problems of Indian Currency. But the spirit in which it is written entirely defeats this end. The markedly partisan tone of the book echoing the orthodox views of Dadabhai and Dutt and imitating the criticism of the Indian monetary system by the indefatigable, Mr. M. De. P. Webb, renders the book useless and mischievous in the hands of the uninformed. The author who will describe the Act closing the mint in 1893 as a disastrous "piece of confiscatory legislation" and who writes that "during the last twenty-two years the Indian Currency System has been the bleeding victim of vivisectory experiments of successive finance members and Secretaries of State" must know that whatever the value of such criticisms, a bundle of them made up into a book may be in his own mind, cannot be regarded as a useful contribution to economic knowledge. The declamation has no scientific value. Many mistakes have been made by the authorities in shaping the Indian Currency System yet it must be said at the risk of appearing to disparage the work of an Indian writer who has been bold enough to enter into a new field that in the present condition of economic inquiry in India, much harm is done by the confident tone of finality adopted by men speaking without any special knowledge or experience.

The most useful part of the book which ought to have been published under a more modest title is where the author gives a brief history of the Indian Currency System and where he gives a summary of the evidence and the report of the Chamberlain Commission. A small bibliography adds to the value of the work. But we can hardly recommend it as a safe guide for the man in the street for understanding in difficult problems of Indian Finance nor can we regard it as an appreciable contribution to the serious economic literature of the day.

X.

A HISTORY OF ECONOMIC DOCTRINES.—BY GIDE & RIST (London: G. C. Harrap and Co. 1915).

THIS book is a remarkable example of the French genius for criticism and generalization. It bears little resemblance to the subtle and sometimes bewildering essays on economic dogma which are brought out by American

scholars like Davenport, Whitaker or McFarlane. Indeed M. Gide himself remarks on these American writings that "it is quite impossible for us to give an exposition of the subtle analysis in which the quarterly reviews of the American universities take such a delight, and which undoubtedly afford a very welcome relaxation in an atmosphere so charged with pragmatism and realism." The book of MM. Gide and Rist is of an artistic character and of creative order, and so differs from the learned but text-book like and somewhat eclectic work of Mr. Haney. Dr. Canna's "Production and Distribution" shows a higher critical acumen than the book under review; but, at the same, the former work is less appreciative and, at times, even hypercritical. Its range of view is confined only to a portion of English Economic literature and it pays far too much attention to the formal side of the science. On the other hand one who masters Gide's book knows a great deal of what is best and most important in Economic Science.

MM. Gide and Rist divide economic history since the eighteenth century into five large epochs of thought. We are first introduced to the founders of the Classical School—from the Physiocrats to Ricardo. The second epoch brings us to the critics of the orthodox school; these critics and opponents consist of the school of Sismondi, the advocates of "National Political Economy" and the older Socialist Schools. The third epoch brings us to the Optimist School when Liberalism came to the fore under Mill and Bastiat. The fourth epoch begins with the advent of new schools of dissenters; these consist of the Historical School, the Scientific Socialists, the State Socialists, and the followers of Social Catholicism and Social Protestantism. In the last epoch, however, the orthodox doctrines triumph once more, through the efforts of the Mathematical and Psychological School and through the doctrines of the Solidarists who are, of course, the particular favourites of M. Gide. Indeed, in this epoch, not only does Liberalism triumph but it runs into the lamentable extreme of Anarchism. Thus the history of economic dogma is represented in a series of rhythmic movements towards and away from the essential and true orthodox position. The book consists, as it were, of two trilogies—in each we start from the truth, witness a dissent from it and finally return to a renovated and rehabilitated truth in strict accordance with Hegelian logic.

Such is the beautiful scheme which leads us from the Physiocrats to our own days. Yet that scheme though brilliantly clear and marvellously logical is not without dangers of its own. Thus when we find Ricardo and Malthus grouped together in the same chapter as the disciples of Adam Smith, we are in some danger of forgetting the very different relations in which they stood to their great predecessor. The real successor of Adam Smith was Malthus, while Ricardo radically altered Smith's conception of the Economic Science by separating it from natural religion. Further, as Patten has shown, "Adam Smith and Malthus view society primarily as an agricultural community," while Ricardo was so immersed in the new industrial conditions, that he was not conscious of the agricultural world demanding attention. In the second epoch, too, M. Gide juxtaposes the names of List, Sismondi, Owen and Proudhon—men who had little in common except their want of orthodoxy. So, also the fourth epoch brings together rather indiscriminately, Marx, Schmoller and Le Play. As regards the last epoch, one might say that M. Gide exaggerates the importance of Solidarism which is

represented by him as the logical and necessary consummation of the whole process of the history of Economics. As a matter of fact in France alone is there any important following for Solidarism of which the chief apostles are, M. Gide himself, Bourgeois and Bougle. Neither its principles, which only emphasize the need for co-operation, nor its practical programme which is identical with that of the Socialists of the Chair, present any essentially novel aspects. Indeed, its relation to the orthodox school is somewhat doubtful, since it rejects the leading principles of egoism and competition, and adopts altruism as the chief motive of men. Joseph Rambaud is right when he urges that the idea of Solidarism was unknown to the classical economists. Leroy Beaulieu thinks that Solidarism leads to the "garantisme" of Fourier, and M. Tarde's opinion is that it tends towards Collectivism. The fact is that Solidarism is a rather hazy and nebulous belief. But though it is possible to discover weak points in the scheme round which MM. Gide and Rist have arranged their stores of erudition, yet it must be unreservedly admitted that it is the best scheme yet brought forward by any economic historian to comprehend in one formula the whole history of our dogma, and that by following it one gets an excellent view of the ebb and flow of economic theory.

Having dealt with the general scheme we shall now deal with some particular topics. The work takes up the history of Economics only in the eighteenth century, and thus takes no account of the views of the Ancients set forth so well by Mr. Bonar, or of Mediæval opinion treated so ably in Rambaud's Histoire des Doctrines Economiques. In dealing with Adam Smith's obligations to the Physiocrats, M. Gide adopts a judicious attitude—placing scientific truth before patriotism—and urges the superior claims of Mandeville, Hume and Hutcheson to be the godfathers of the new doctrines. Indeed, as Patten has recently shown, the opinions of the Physiocrats themselves were much influenced by the teaching of these English philosophers. Coming to the theory of Value, it might be said that the various different forms in which that theory was held by Adam Smith and Ricardo are not clearly analysed and presented. It is curious also that no full account is given of the evolution of the theory of International Trade, though at p. 364 some description is given of Mill's contribution to the theory. In this respect —but in this respect only—Rambaud's treatment in his history is preferable: for the rest, Rambaud's book suffers from its theological bias. One may add that a disproportionate amount of space is devoted to socialistic theories—indeed much more than one-third of M. Gide's book is so taken up. At the same time, while whole chapters are devoted to many individual English and French economists, no German writer except List is fully treated. The Mathematical School is discussed with too great brevity, and it is hardly satisfactory to say that the school "pretends nothing more than to give a fuller demonstration of the theories already taught by the old masters."

But though it is easy to differ from the authors as regards particular points or phases of the book, it is impossible to deny that the work as a whole is a most lucid, well arranged and masterly treatise on the history of Economics. Its merits go far to justify the editor's remark that France still maintains its pre-eminence in the domain of the History of Economics.

J. C. COYAJEE.

WAR AND LOMBARD STREET.—By HARTLEY WITHERS (London: Smith, Elder and Co., 1915).

BRITISH WAR FINANCE 1914-15.—By W. R. LAWSON (London: Constable and Co., 1915).

THE POLITICAL ECONOMY OF WAR.—By F. W. HIRST (London: J. M. Dent and Sons, Ltd.).

THE ECONOMICS OF WAR AND CONQUEST.—By J. H. JONES (London: P. S. King and Son, Ltd.).

IT need hardly be said that of the four works now before us, Mr. Withers' book is, by far, the ablest. Every student of Economics will endorse Mr. Price's view that "no writer indeed on such topics since Walter Bagehot has been happier than Mr. Withers' in rendering the technicalities of currency and banking intelligible and interesting to ordinary citizens." It is fortunate indeed for England that it is able to secure such financial talents for the past of the Director of Financial Inquiry in the Treasury. Other and larger works will no doubt be written on the finance of the great war. But as representing the contemporary impressions of a great financial expert, this little book will always remain a classic. Mr. Hirst's book may come next. It is an ambitious work which tries to give us something like "a formal treatise on the Political Economy of War." It deals with the general question, whether wars can be made to "pay," and answers it in the negative. It treats also of the growth of expenditure on preparations for war and with the increase of debts due to war. It ends with a brief treatment of the finance of the present war and its cost. Mr. Lawson is a well known writer on finance, and in his present book he gives us his views not only on war finance, but also on the various State trading ventures which he criticises vigorously from the old Laisser Faire point of view. He also condemns the Treasury restrictions on new capital issues. A remarkable chapter in his work is the one entitled "The doom of the one-man budget." There the effect of the war on the financial system of England in the future is estimated. "It is only in British finance that the one-man Treasury and the one-man Budget survive. In every other country worth counting, the national revenue and expenditure are surrounded by checks and safeguards which we disdain to use* * * * For the new burdens which are being piled up on us an entirely different kind of Budget will be needed from the one we have become so painfully familiar with in past years." The author suggests that England should imitate the example of France which possesses a permanent Finance Committee, which examines the estimate before they are submitted to the Legislature. Vigour of criticism and boldness of suggestion are never to be found wanting in Mr. Lawson's writings.

Mr. Jones' "Economics of War and Conquest" is a scholarly work devoted mainly to the examination of Mr. Norman Angell's theories and paradoxes. The economic futility of war and conquest, the value of indemnities and the relation of territorial gain to economic welfare are some of the problems studied here in a careful and moderate spirit. Mr. Jones may not succeed in upsetting Mr. Norman Angell's views on the futility of wars for they are more balanced than their critic takes them to be; but Mr. Jones' chapter on war indemnities is in itself an important contribution to the subject of

war finance, and there is also a brief but reliable account of the finances of the belligerents. The young author has fairly won his spurs.

We shall now try to bring together and examine some of the important views of these writers on the economics of war, and we shall begin by considering the theory of the economic futility of war and conquest. Mr. Hirst examines the wars of the seventeenth and eighteenth centuries, and shows that none of them "paid"—not even the "glorious" Seven Years' War. Great Britain is accused by the continental writers of having filched the trade of other European nations during the Napoleonic war. But Mr. Hirst argues that too great a price had to be paid for this gain in the shape of the shock to national credit and to the gold standard, in the break down of the Poor Law and in the encouragement to the protectionist tendencies which led ultimately to "the Hungry forties." Mr. Hirst would go so far as to justify Pomilly's paradox that a victorious war is more calamitous to England than a defeat. To Lucan's "Multis utile bellum" he opposes Adam Smith's view, that war while it enriches a few impoverishes the many. But, although this may be granted, it does not follow that territorial acquisitions made through war are not important elements of economic gain. As Mr. Jones argues, "If no gain was effected by the acquisition of Alsace-Lorraine no loss would be suffered if it were now returned to France. Nor would any loss be felt if Schleswig-Holstein were handed back to Denmark, East Prussia were presented to Russia, Westphalia ceded to Belgium and Holland, Saxony to Austria, Silesia to the New Poland, and so on, until 'Germany' was left with only the plains and the pleasant lakes of Brandenburg." National existence and greatness are surely sources of even economic gain. Even from the purely economic point of view, we can argue on the side of the utility of many conquests. As Mr. Jones urges, the cost of Government does not increase proportionately with the value of territory added. Secondly "if Alsace-Lorraine has proved to be richer, as a province than the average for Germany, and an appropriate share of Imperial taxes is paid by the people, the amount of the taxation falling on the rest of the Empire is reduced." Finally the reproductive undertakings of the Empire, such as the Post Office, are more profitable than they would have been, if they had not included Alsace-Lorraine. Thus we see that there is an element of gain in many conquests and this has to be balanced against the cost of the war. Neither the Pacifists, nor the war-fanatics are right; the question of the economic utility of each conquest is to be settled on its individual merits. It may be that neither Mr. Norman Angell nor Mr. Hirst assert absolutely and unconditionally that war must be economically a failure; but certainly that is the impression they leave with the great majority of their readers and such an impression was worth combating.

As regards indemnities, generally the same answer is to be given. Extremists like M. Lavisse and Mr. Norman Angell are wrong in believing that an indemnity can do nothing but harm to a victor. It may, of course, be as Norman Angell states that "Germany was ten years after the war, a good deal worse off, financially, than her vanquished rival;" but that is only an argument *post hoc ergo propter hoc*. Schmoller has pointed out that the French Indemnity was brought home unskilfully, and that the faulty procedure was the cause of much of the ensuing trouble. The true view has been advanced by Mr. O'Farrell that "the indemnity was in some ways an injury and in other ways a gain to Germany." Indemnities need not and should not be brought home in the shape of either gold or goods. At the

end of the present war, the conquerors might confiscate the foreign investments of Germany, or they might be paid in bonds issued by the German Governments. The victors can thus draw an annual income from these bonds and investments; or they might be selling the shares and bonds, as they like, bring the indemnity gradually at their own convenience. Mr. Hirst himself seems to approve the "balanced and qualified opinion" of Mr. O'Farrell.

In an extremely interesting chapter on "the trade in Armaments," Mr. Hirst gives a full account of the nefarious machination of the armament firms, which, naturally, have a direct pecuniary interest in war. A speech of Dr. Liebknecht is quoted which exposes the connection between these firms and the authorities, the combined international interests of the armament firms in different countries, their efforts to bring about wars and the systematic bribery and corruption carried on by them in different countries. An event which certainly contributed to bring about the present war "was the division of Turkey between Krupp and an English group of armament firms, Krupp (supported by a German Military Mission) taking over the military control of the Turkish army and the fortifications, while "the British group (with a naval mission) took over the naval reorganization. It has been frequently stated to Russia that this German move made war between Germany and Russia inevitable." When we are thus told how many incitements to war thus existed our only wonder is that war kept off so long, and our respect for the diplomatic services of the countries concerned is heightened.

Coming to the emergency measures taken during the present war, the first topic to consider is whether the emergency currency of England should have been issued by the State or by the Bank of England. Mr. Withers argues that the issue of Treasury notes was "a needless break with tradition," the more so as "it is probable that new Bank of England notes could have been more quickly produced." Professor Nicholson and Sir R. H. Inglis Palgrave have argued on the same side, the latter showing that the State made no profit on the issue of its notes. It requires some courage to argue against a view held by such high authorities. Still one may be permitted to show that the arguments for the view opposed to theirs are extremely strong. In such a world conflict as the present, even the credit of the Bank of England might have proved unequal to face into circulation the vast amount of notes necessary. The reserve of the Bank had already gone through a heavy drain—it amounted to £27 millions on July 29th and was reduced to £10 millions on August 7th, 1914. Moreover, as the power of borrowing emergency currency by the joint stock banks had been fixed at £200 millions, this in itself would have been a very heavy demand for the Bank to meet. Again, if the notes had been issued by the Bank, it would have been made the arbiter of the fate of the joint stock banks and would have supported them only on what terms it chose to. Finally, there were signs of a run on the English joint stock banks; this was exactly the moment for the Government to step forward, and in the face of a crisis of an exampled magnitude to place the currency of England on the broad foundations of national credit.

It is matter of the highest importance to notice that the State has acted with such exemplary vigilance in the issue of the Treasury notes that it has avoided inflation at least of any appreciable extent. In the Economic Section of the British Association, both Professor Foxwell and Mr. Gibson have argued that there has been as yet no inflation. As has been argued in the *Economist*, if we deduct from the outstanding amount of the Treasury notes the amount

of gold actually earmarked, secondly, the amount of gold that they have replaced, and thirdly the notes kept by banks as till money, there are very few left over to affect prices.

Mr. Lawson is not opposed to the issue of Treasury notes, though he calls it "a measure of hand-to-mouth order," since there was no time when the crisis began to think out a well-considered currency scheme. He withholds his judgment and thinks that it will only be possible to judge by results whether the Treasury notes were better remedies for the crisis than the suspension of the Bank Act would have been. Indeed, sometimes Mr. Lawson goes so far as to suggst that the Treasury notes might become the nucleus of "a permanent system of minor currency issued by the Treasury." He also admits that the arguments for State issues of small notes are numerous. But both Mr. Withers and Mr. Lawson are at one in recommending that the Treasury notes should be rescued from their present anomalous and undefined position.

The question of the conduct of the joint stock banks at the beginning of the present crisis has given rise to much controversy. In the Economic Journal of 1914 Mr. Keynes passed severe strictures on their conduct. "Our system was endangered, not by the public running on the banks, but by the banks running on the Bank of England * * * The Government had hoped that in placing the public credit boldly, cheaply, and in huge amounts at the disposal of the banks as the natural channel between them and the country at large, the greater part of this credit might percolate through to the industrial and financial world generally and serve to oil the wheels of the whole economic machine. On August 26th Mr. Lloyd George was moved to express his disappointment * * * The right view must depend upon how intrinsically desperate the situation during August was really. I believed, and subsequent events are constantly strengthening this belief, that it was amenable to courageous action." This dictum has been endorsed by both Mr. Withers and Mr. Jones. The banks caused a run on the Bank of England by withholding gold from their customers, and they increased the amount of the "other securities by relentlessly calling back their loans from the bill brokers." Finally, they withdrew their own reserves from the Bank and in these three ways drained the Gold Reserve of the Bank. At the same time a good deal could be said on behalf of the banks. Their first duty was towards their own customers, and the law of self-preservation is the supreme law. Moreover they could also argue that the accommodation granted to them in the shape of Treasury notes did more good to the Government than to the banks. The great services rendered by the banks during the crisis have not received adequate recognition. Finally, their keenest critics have asserted that their later conduct was irreproachable. Through the banking moratorium the banks could exercise their discretion as to meeting cheques drawn on them. "Most of them used this discretion wisely, and allowed customers to draw what they wanted for ordinary purposes." Mr. Withers adds that "the banks did not avail themselves of the subsequent extension of the moratorium for two or more months."

Much criticism has also been levelled against the measures taken by the State for the rehabilitation of the bill market. Mr. Lawson argues that the State "went at it blind," not knowing with any degree of accuracy the amount of the bills outstanding; and that the holders of bills in sending them to the Bank for discount have been largely actuated by a mere desire to escape their

liabilities" (p. 120); Mr. Withers adds that the arrangement did not produce a satisfactory result, since the banks, on being relieved of the old bills, did not show "greater readiness to assist in the task of reorganizing exchange by buying new bills more freely." Finally, Mr. Withers argues that by the scheme adopted, the joint stock banks were made the arbiters of the position of accepting houses which were their own rivals.

Against these arguments can be adduced others at least equally strong. Though there were no statistics of the bills outstanding, the State's advisers made a guess as to their amount, which was very shrewd and exact as events showed. The State suffered little loss from the scheme of helping the bill market. Mr. McKenna was able to announce in June 1915 that the State had been saddled with no great liability—the outstandings at even that early date being under fifty millions. The banks could not be blamed for not buying more bills, if with the contraction of business due to war, the output of bills had been greatly reduced. Finally, there were no complaints of adverse discrimination when the time came for acceptors to satisfy the Bank of England and the joint stock banks as to the nature of the transactions on which the bill was based and to explain why money was not forthcoming from their clients.

It is less easy to defend the Treasury restrictions on new capital issues. Mr. Lawson argues that through these restrictions "millions and millions of capital, which but for these restrictions might have been earning good returns as well as rendering useful service to the country, have been piled up in the Bank of England." A writer in the *Economist* (23rd January 1915) takes up the same line of argument and argues that the Treasury is not the proper authority to decide whether an enterprise is of national interest to a sufficient extent to make a demand upon the national capital. Further, that if foreign clients of England are deprived of loans they will not be able to buy English goods. It is also urged that "credit is not like a bowl of water diminishing as cupfuls are borrowed from it." May it not, however, be replied that the superstructure of English credit should bear some ratio to the total stock of gold which is large indeed but not indefinite? One might add, that though loans are sent out in the shape of goods, the productive capacity of the nation has at present to be diverted more and more to war work from the manufacture of exports. There is much to be said for a *temporary* measure of which the object is to conserve the lending power in the country in the nation's interests.

The closing of the Stock Exchange is another focus of controversy. Mr. Lawson's attacks are fiercest at this point. His view is that the Stock Exchange was made the scapegoat of more powerful and higher up offenders; that only forty large firms, chiefly foreigners, thratened to "hammer" themselves, otherwise the rank and file of Stock Exchange members were solvent; that Downing Street had two bogeys—the dumping of German stocks in London, and bear-selling; that the total Stock Exchange liabilities were estimated at only seventy to eighty milions sterling and that banks and outside money-lenders had the greatest stake on the Stock Exchange. To this train of reasoning the reply might be made that Stock Exchanges closed all over the world when the war began. Mr. Withers, though an acute critic of most of the emergency measures, says of this one: "So many brokers found themselves embarrassed by the headlong nature of the fall in prices during the week before the House closed that, it is said, the committee was

obliged to close lest even a worse thing should happen." Each of the forty firms mentioned by Mr. Lawson would also have numerous partners, and the standing of the firms concerned has also to be taken into account. It might also be added that the banks had nothing to gain from the closing of the Stock Exchange since the closing of that institution solidified a great part of their assets and made them useless. Mr. Lawson also assails the restrictions imposed on the work of the Stock Exchange when reopened. He contemplates the Germans gloating over the reopening of the Stock Exchange under such stringent precautions. "Is this," says the *Berliner Tageblatt*, "really an open market, in which supply and demand meet? What sort of a Bourse is this?" Mr. Lawson also envies the greater smoothness and speed with which the work of Wall Street was restored. He admits that the conditions there were simpler than in London, but "the credit of its more rapid return to normal conditions was also largely due to their comparative freedom from outside interference." The best answer to these yearnings and strivings is the opinion of such a practical expert in finance as Mr. Withers. He observes with a confident logic: "If the House had opened and dealings had been free, it would have been impossible to prevent our enemies from financing themselves at our expense. Who could have prevented, for example, German holders of American or Canadian securities from selling them to Dutchmen and the Dutchmen from selling them to us? A free market was impossible on political grounds." On such a point as this, the only opinion which counts is that of the great London financiers; and hence it may be permitted to quote the views of another financier. Mr. H. C. Sonne has recently written a book named "The City—July 1914-15." Discussing the reopening of the Stock Exchanges, he remarks at p. 48: "It was necessary to impose drastic restrictions in the regulations, chiefly in order to prevent the enemy from selling out securities in London through neutral countries; yet in spite of these restrictions the reopening has so far been a success. Many speculative ante-war transactions have—prices allowing—been finally closed, and the ordinary investment business has once more been resumed." Indeed the restrictions could not be very heavy, if, as Mr. Lawson himself admits, 75 per cent. of the liabilities of the Stock Exchange have been liquidated within four months of its reopening.

The most valuable part of Mr. Withers' book is where he enlarges on some much needed lessons which the war is bound to impress on the London market. For one thing, he does not agree with those who would prevent joint stock banks from doing accepting business in the future. He rather believes that "for a bank to give its name to a bill on behalf of a customer whose position it is exceptionally well able to gauge is a perfectly natural operation." He, however, warns the banks that acceptances are a kind of liability which should not be indulged in too freely.

Another lesson to be learnt is about the use of Finance Bills. Here also a too lavish employment of the devise is to be condemned. "For some time before the crisis it had been felt that finance bills had been created too rapidly." This is not the first time that Mr. Withers has raised his warning voice against that procedure. In his book on the "Meaning of Money" the point had been emphasized, one might now say in the light of events, prophetically. But now that the evil foretold has come to be realized, Mr. Withers wisely insists that in order to avoid Scylla there is no need to rush on to Charybdis: and that, if Lombard Street now insisted too rigidly on cutting off finance

bills, the effect on the export trade of England would be disastrous. "On the whole, it may be say, that the machinery by which English money is borrowed by foreign countries, enabling them to buy our goods and services, and to pay their interest on existing debts to us, has stopped with a jerk. The consequence inevitably is a lessened demand for our goods and services, and defaults in interest payments."

The war has taught the world anew how great is the strength of London as a financial centre. By insisting on the repayment of what was due to it, London "put the rest of the economically civilized world, for the time being, into the bankruptcy court." London has perhaps been tempted to use this giant strength with too great abruptness, but as Mr. Withers admits, this was only natural under the conditions. Mr. Withers might have easily added other proofs of London's mighty power. The very early shaking off of the incubus of the moratorium, the amazing revival of Stock Exchange activities, the financing of the Allies, the constant pumping out of gold to correct foreign exchanges—these and many other great activities attest to the financial might of London. Her credit still bestrides the world like a mighty Colossus. To keep to this pride of place, it is essential, as Mr. Sonne observes, not to recall English floating debts from abroad and "to maintain London's free Gold Market with favourable exchanges, whilst at the same time the private discounts are kept on a moderate level."

The joint stock banks have also learnt the need of larger cash reserves. Both Professor Foxwell and Mr. Withers rub in this lesson energetically. The former argues that the banker's panic was due to their knowledge that "if the public generally had demanded in gold 5 per cent. of the sums standing to their credit, whether for purposes of export or hoarding, or even for extra pocket money, the whole system would have collapsed." The banks will, it is hoped, also learn how far it is safe to go on lending to the Stock Exchange. Before the last crisis they had lent two hundred and fifty millions against Stock Exchange securities and about eighty millions to stock brokers. Lending on such a scale promotes speculation dangerously.

And what of the much-discussed sugar deal? Critics have generally shown little mercy to it, and Mr. Lawson is one of the sternest of them. But a good case can, nevertheless be made out for it. It has, of course, not been successful as a measure for controlling prices. But it may be regarded as a safeguard against Germany's possible efforts at causing a sugar famine in England. The manœuvres of rival Trusts against each other can cause strange fluctuations in prices, but these are nothing to the startling possibilities when whole empires begin campaigns against each other in the economic sphere. Professor Alberti alleges that there was a "sugar-war" between England and Germany, the latter trying to cut off the sugar supplies of the former. This move had to be met and defeated even at some cost.

So far we have discussed the books mentioned above. But there is still room for a comprehensive work dealing with the various aspects of the extension of the functions of the State during the war. The State, in a war of the present dimensions, has first to support finance and industry, if, in the long run, it expects to be supported by finance and industry. Assistance given to the banks, to the money market and to the bill market is, of course, a stupendous task for the State, but it is only one aspect of the many-sided task of supporting the national industry and finance—one might say, indeed, the

easiest part of the task. State intervention in finance has *primâ facie* greater chances of success since the subject matter of finance is amenable to general rules, and the State always possesses an unrivalled volume of credit. It is otherwise when the State enters the field of production or of transportation, or when it tries to control prices. In taking over the English railways during the war, England has given them terms far too liberal; they have managed things more economically in France. The experiment in insurance of shipping has succeeded in England and has been imitated with equal success by France; but that is because the German navy has been bottled up in the Kiel Canal. The task of a general control of shipping has indeed been proposed, and even prepared for, but the best judges are sceptical as to the success of the State in such a vast enterprise.

The State's intervention in the sphere of exchange—meaning by this the control of prices—has always been a failure and could not, from the nature of the problem, prove anything else. History bears witness to the futility of the "Maximum" laws from the days of Philippe le Bel and of the Convention in France to our own days. The experiments in price control carried on in France during the present war are partial, since France is open to imports; in Germany the experiments are carried on under ideal conditions. Hence in France we see more of the absurdity of the attempt, in Germany more of its impossibility. In both countries it is clear that the State cannot stop short at the stage of controlling prices, but must also requsition and appropriate the supply of the article in question; and this, in its turn, is but one step towards the undertaking of the task of production by the State. For the work of productions in its turn, the State possesses little enough capacity. The working of the Munitions of War Act has indeed vastly increased the quantity of output, but the price of munitions is said to be trebled. Nor has the State shown any greater power of controlling its labour force than the private entrepreneurs. In Germany, too, such success as the State has achieved in the work of production is due to the work being done not directly by the State but through the Cartels. In concluding it is worth noticing that the German State, even assisted by the most powerful beaureaucracy in the world, did not dare to tackle directly the task of requisitioning and distributing food supplied, but formed a limited liability company to carry out the task.

From all these developments we see that the old economists were justified in their opposition to the extension of the functions of the State in the economic sphere. State agency is a wasteful agency, introduces friction, and might be used in the selfish interests of a particular class like the German Junkers. Moreover, one extension of the powers of the State only prepares the ground for another extension. But, of course, when the national existence is at stake, is no time to count the cost. Germany has set the example of a desperate war finance and the other States have only followed suit in self-defence. But it has to be recognized that the new system of economic mobilization for war is a very serious matter. In old days wars were not so deadly. After they had lasted for a time, some economic wheel of the State would give way and the wars would end. But the new system of economic mobilization enables such an exact use and distribution of all the resources of the State that no part can give way till the whole collapses in irretrievable ruin. Thus we can see that Germany is trying to spur a sinking horse towards the winning post. When defeat comes she will be a complete bankrupt.

politically, financially and industrially. If, Norman Angell could have foreseen the effects of such an economic mobilization, he would have even a better argument for the futility of wars than the one he has put forth.

Yet the war may have taught useful economic lessons which may, if well used, accelerate future economic progress. So many experiments, on such a scale, and on so many most important economic lines, have never been tried before, and the results are bound to be most valuable. If the State has learnt how to guide production and to stimulate it along proper lines, that knowledge may prove to be no small gain. If by trying to control consumption the State has learnt more of its nature and of its possibilities, that would bring in itself immense progress. The State has, further, been taught the lesson of co-operation with the banks and with the financial leaders. No longer can the banks act in that isolated way and with that atomistic incoherence which has done so much harm in the past. The relations of the State to Trusts and to railways will be closer and better understood than before. Finally, the joint financial action of groups of nations during the present war may lead to conscious economic and financial co-operation in the future, and this will open up an immense vista of world-wide advantages. But all these gains will be secured only if the States settle down to use these newly learned lessons in the paths of peace and not in the ways of wars whether commercial or other. If this course is adopted, the present war may be the beginning of an era of unparalleled economic progress and the extension of the State's economic functions will have justified itself to a considerable extent.

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RECENT PROBLEMS OF INDIAN CURRENCY AND EXCHANGE.

I.

BEFORE the outbreak of the present war there was a school of Economists who believed that modern nations had become so interdependant economically and that, in particular, the organisation of international credit and exchange had become so delicate in its mechanism that the existence of war upon a large scale would bring rapidly to the ground the whole structure of international finance and with it the possibility of the continuance of international trade.

On the outbreak of war this theory was rapidly put to the test and, so far as its main conclusion goes, proved to be false.

Despite the temporary collapse of the money markets of the world and the general uncertainty as to the course of events during the first days of the crisis, nothing was more remarkable than the rapidity with which the injuries to this credit structure were patched up and the machinery of international trade again set in motion. But while this machinery has continued in operation and, on the whole with remarkable success, the war has caused and is causing the appearance of a number of problems within the sphere of currency and exchange which are certainly of great temporary interest and may have lasting consequences.

It is the purpose of this article to examine the working of the Indian system of currency and exchange since the Summer of 1914

with the object of considering the special difficulties that have affected the Indian monetary system in consequence of the war.

In discussing these questions it is important to bear clearly in mind the two ultimate aims which that system sets out to achieve.

The first is the provision of internal currency in such quantity as is required by the varying volume of trade. The second is the provision of external currency for the discharge of India's international obligations, with the necessary condition of maintaining the parity of exchange between the internal and the external monetary media. It is upon the success with which these two objects are fulfilled that the Gold Exchange Standard has to be judged and the whole of Indian monetary policy has been shaped in accordance with the undertaking by Government of the duty of achieving them.

As Mr. Keynes has expressed it, "The Indian Authorities have undertaken a double responsibility and must be prepared to supply rupees in payment for Council Bills or in exchange for sovereigns, and, on the other hand, they must be prepared also to supply sterling or sterling drafts in exchange for rupees. The maintenance of the Indian system depends on their ability to fulfil this double obligation to whatever extent it may be required of them."

In discussing the extent to which the Government has been able to fulfil these responsibilities during the exceptional conditions imposed by the war we may conveniently divide the subject into three parts :—

(1) The period of falling exchange and the danger of a gold drain.

(2) The period of rising exchange and the danger of a silver drain.

(3) The special problems attaching to the rise in the price of silver as affecting the exchange value of the rupee.

Upon the outbreak of war the dominant consideration in the sphere of finance was the danger of a general collapse of credit. The vast cycle of exchange whereby goods and services pass from

hand to hand and income accrues to meet expenditure is carried on in the main by means of representative money. If, in this cycle of exchange, some great and sudden disturbance occurs, the capacity to meet liabilities, which essentially depends upon the continuance of the process of exchange, is in general danger. The very existence of that "money" which is the mechanism of exchange is threatened. For it in large measure consists of documentary claims to goods at certain values. If the violent interruption of exchange causes these values to become wholly uncertain and even non-existent the very basis of credit and of representative money is undermined. In this general uncertainty every creditor strives to secure the payment due to him and this attempt is in itself the greatest danger to the maintenance of the cycle of exchange.

We are familiar with the steps taken in England and in other countries in the early days of the war to prevent this collapse of credit and of values by the various devices of the closing of the great stock and produce markets, by the declaration of moratoria and by the issue of fiduciary money by the State to take the place of the gold which it was so necessary to economise.

In India the dangers that might have been apprehended upon the appearance of a great European crisis were :—

(1) The paralysis of trade in consequence of the sudden contraction of the circulating medium.

(2) A run on the Paper Currency Reserve in consequence of a large encashment of notes and possibly also an attemt to exchange rupees for gold.

(3) The sudden recall of funds due by India to London together with a contraction in the demand for Indian exports and a consequent gold drain.

We may briefly consider these topics in turn. The danger of a collapse of internal exchange in India was far less than in most other countries for the reason that her industrial and credit organisation is still very primitive and ill developed.

A *régime* of barter and subsistence farming has the advantage as well as the defects which a simple organism possesses over a complex in being less dependent on co-ordination with its environment. Although barter has indeed mostly given place to a money economy in India transactions are chiefly in hard cash rather than in bank money and thus less sensitive to a failure of credit.

Thus the greater part of Indian Economic life continued hardly conscious of the upheaval that was agitating the more highly developed industrial countries. Only those dependant on the export trades, such as jute and cotton, suffered from the sudden contraction of demand.

The transactions upon the Indian Stock Exchanges are almost entirely of a local character. Thus, one of the causes which led to the closing of the London Stock Exchange, namely, the difficulty of obtaining a settlement of debts due from abroad did not operate in Calcutta and Bombay.

It is true that another danger which was very prominent in London also existed, to some extent, in India, namely, that a general sale of securities might cause a slump in their values and hence a contraction of the cover for bank credit with resulting grave difficulty for those indebted to the banks. But the volume of securities so pledged being small in India the problem was not such as to cause the banks any serious anxiety. Perhaps it was fortunate in this respect that the weaker elements in Indian banking had been purged shortly before the War. Despite the general success with which the banks met the position two native banks were compelled to suspend payment, namely, the Punjab Co-operative Bank and the Bank of Upper India.

Even before the banking crisis of 1913 had occurred, an important development in the relation between the State and the Presidency Banks had taken place, namely, the Secretary of State had empowered the Indian Government in case of need to lend up to 3 million sterling to the Presidency Banks at a rate of interest below the market rate. Previously any accommodation offered by

the Government to the Presidency Banks had been at market rates of interest, thus offering little inducement to the use of such funds. The change therefore marks a closer relationship between the Government and the Banks which has no doubt resulted from the Chamberlain Commission.

The knowledge of this reserve power must have given additional confidence to the Presidency Banks during the uncertainty of the early weeks of the war. The Government also stood behind the Banks in order to help the financing of the Cotton crop for the prevention of a disastrous slump in values and in this connection the Government was empowered to invest up to 4 million from the Paper Currency Reserve.

The most serious instance of panic action occurred among the Savings Bank depositors. On 31st July 1914, these deposits had risen to 24½ crores. By the end of September 1914, 6 crores had been withdrawn and by the end of 1915 the withdrawals had amounted to 10½ crores causing a heavy demand upon the general cash balances. Since then, however, there has been a gradual restoration of confidence and an increase of deposits.

So far then as regards an internal banking crisis and collapse of credit was concerned India escaped with extraordinarily little damage. No moratorium was declared, the stock exchanges were not closed, and although a large number of Marwaris retired with their rupees to their native homes, there was nothing approaching a run on the banks.

The second danger, namely, of a general attempt to redeem token currency, might have taken two forms—the encashment of Currency Notes and the exchange of rupees for gold. Four-and-a-half crores of rupees were paid from the Paper Currenry Reserve for the abnormal encashment of notes between the end of July and the end of September, 1914. The greater part of these withdrawals occurred in Bombay. The reason for this may have been the lack of confidence engendered by the bank failures of 1913 which mostly affected Western India, but it is perhaps

permissible to suggest that the smaller confidence in the note circulation was partly due to the fact that gold circulates fairly freely in Bombay with the result that the note holds a less assured position in the circulating media of exchange.

It is interesting to compare the action of the Indian Government in giving special facilities for the redemption of notes by making them encashable at District Treasuries as well as at the Central Treasuries with the action taken by the Egyptian Government which on the 2nd August, 1914, declared the notes of the Bank of Egypt legal tender but inconvertible.

The run on the Paper Currency Reserve was of comparatively short duration however and the subsequent large expansion of the note circulation is a proof not only of the general confidence in Government but of the steady enlargement of the sphere in which the note is received as currency.

In the early days of the war there was an attempt of some importance to exchange the rupee token currency for gold. But the Government took steps to guard against this by the notification that gold would only be issued to any one person or firm in amounts of £10,000 and upwards. This was intended to prevent gold from dribbling away into hoards and to confine its use to those requiring it for export. Between the 1st and 4th of August, 1914, £1,800,000 had been paid out largely to persons who by clubbing together obtained it for internal use. On the 5th August, therefore, the Government refused to issue further gold to private persons. It may be remarked that this refusal caused no very great failure in the internal parity between the rupee and the sovereign. Between August and November, 1914, the sovereign exchanged in the bazar at rates varying between Rs. 15-5 and Rs. 15-8. It then fell to a rate varying between Rs. 15-1 and Rs. 15-3.

We may now consider the effect of the outbreak of war on the maintenance of the Foreign Exchange and the possibility of a gold drain.

With the commencement of the international crisis the

exchanges in all countries moved in favour of London for the simple reason that nearly every country is a debtor to London and creditors were calling in their debts. The Indian Exchange moved with the rest. For a few days indeed Bills on London could not be obtained at all because no one knew whether they would be paid on presentation. As soon as that fear was removed business in exchange was renewed.

Directly war seemed inevitable exchange fell in the course of a few days from 1s. 3d. 15/16 for telegraphic transfers to 1s. 3d. 11/16. The Government announced that it would maintain its policy of supporting exchange by all the means in its power. It undertook to sell sterling bills on London up to a maximum limit of 1 million pounds sterling a week. Only for the first week was the demand for bills in excess of this limit. After that the rate for telegraphic transfers rose to 1s. 3d. 25/32, and by November 1s. 3d. 27/32d. Between August, 1913, and the end of November, 1915, Government expected to have to provide 8¾ million pounds sterling from the Gold Standard Reserve to meet these bills. In order to strengthen the Gold Standard Reserve the 6 crores of rupees which had been specially held in the Indian Branch, in order to strengthen the silver position in case of a sudden demand for rupees, was transferred to the Paper Currency Reserve in India, while £4 million in gold was transferred from the Paper Currency Reserve in London to the Gold Standard Reserve.

The funds provided against the sale of Sterling Drafts were, however, not the only demand upon the country's sterling resources. It had been estimated that 20 million sterling would have to be transferred to London to meet the ordinary needs of the Secretary of State which he normally obtains by drawing Council Bills. But he was able to sell Council Bills only to about the value of £7 million. To meet the balance £1 million was withdrawn from the gold of the Paper Currency Reserve in London against an equivalent value deposited in India and the Government exported £600,000 in gold. The greater part of the balance was really paid

for by recoveries in London from the War Office of money expended on war services in India, namely, £8 million, and the remainder by borrowing £7 million by an issue of India Bills.

As the result of the general economic disturbance occasioned by the war the Indian Government found itself compelled to borrow about £21 million in order to meet its expenditure.

From our present point of view the fact of interest is that £7 million of this was obtained by borrowing from the Gold Standard Reserve in India; this reserve having been swollen by the large sale of Council Bills. This borrowing was continued in 1915-16. At the end of the financial year 1914-15 Government was congratulating itself upon the success with which the crisis caused by the outbreak of war had been met. Despite the considerable decline in India's exports coupled with a large withdrawal of fluid capital, the external exchange had been maintained. The action taken by the Government to this end had been prompt and effective. As we have seen the run on the Savings Banks had virtually come to an end. The note circulation had withstood any shock that may have been apprehended to its credit and without an addition to taxation the capital outlay upon productive works had been reduced by only 4 millions sterling. The Gold Exchange Standard in India was said to have withstood the shock better than the currency system of any other country.

After a year of fighting the Indian Government seems to have been affected by something of the same optimism and failure to grasp the real magnitude of the operations lying before it which beset the Government at home.

At this point some interesting questions of policy arise. They really raise the question how soon the change in the currency and exchange situation which subsequently took place could reasonably have been foreseen.

Up to this point the dominant consideration had been an unfavourable balance of trade and the danger of a gold drain. Had the war then come to an end and had India experienced bad

seasons it was quite likely that the gold drain would have continued causing a severe strain upon India's gold resources. On the other hand the continuance of the war, the active participation of Indian troops in the conflict in Mesopotamia and the great demand for Indian produce for war purposes was bound to cause a great reversal in the balance of indebtedness bringing with it the problem of discharging that balance at a normal exchange and of providing for a rapidly expanding demand for silver currency.

One fact of the first importance was definitely known, namely, that, while in normal times India took her payment for exports very largely in imported gold, so long as war continued this form of import was very greatly restricted. This, of itself, would necessarily increase the difficulty of financing large favourable trade balances.

A further fact was also known, namely, that the so-called gold countries were no longer in possession of an automatic currency. With restrictions placed everywhere upon the free movement of gold the basis of international values was only connected with gold, it was not gold itself.

Paper currency, only partially redeemable, was becoming the world's monetary medium and the greatly increasing volume of it was inflating prices. It is true that this inflation had not affected silver up to that time. Despite a great increase in the issue of silver token coinage which the war early brought about, the price of silver remained low, being frequently under two shillings an ounce in 1915. The subsequent inflation of prices and the increased issue of silver, together with the shortage in supply resulting from the Mexican war, have since caused an enormous rise in its value.

It has been the general policy of the Government to make its silver purchases on account of rupee coinage from "hand to mouth." Mr. Keynes in discussing this practice has given reasons for definitely approving of it as against the alternative of making large purchases against future requirements when the price of silver seemed low,

But maxims that may be valid in normal times are not necessarily so in abnormal. If it was deemed prudent for Government to acquire large stocks of sugar and of wheat, surely it was not less important to secure adequate stocks of silver when the maintenance of the Indian Exchange Standard was at stake.

It is no doubt easy to be wise after the event but, as has been pointed out, the conditions making for a vast absorption of Rupee Currency were probable at the end of 1915. There was a growing void caused by the shortage of gold imports. Throughout India purchasing power was flowing into the pockets of the people and it was only in accordance with experience to suppose that this purchasing power would be exercised so as to fill the void by means of the best available substitute.

The price of silver in December 1915 was about 27d. per ounce. In December 1916 it was about 36d. If adequate stocks had been acquired at the earlier date not only would Government have gained a large profit, but the *sudden* action into which it was forced at the later date would have been avoided.

It is not here contended that the Government could, or should, have continued indefinitely to finance India's export trade by means of a continuous stream of silver. It is not difficult to show that such a course would have been contrary to India's real interests, although not very different from her normal practice in taking in a continuous stream of gold.

A sufficient stock of silver would, however, have made possible a more deliberate and consistent policy based upon ultimate considerations rather than momentary necessity.

In passing from the discussion of the first phase of the exchange and currency problem during the war to a consideration of its second phase in which the essential difficulty has been to finance an abnormally favourable balance of indebtedness it will be necessary to make certain preliminary references to the course of exchange other than the Indian and then to the facts of the Indian trade balance itself.

It has been pointed out that in the early days of the war all the foreign exchanges moved in favour of London. But before long this process was reversed. At first it appeared to be England's intention to pursue "business as usual" and to concentrate her main energies on the production of goods and the lending of capital for the benefit of the nations whose vast armies were in the field. It soon became apparent, however, that a great proportion of her man power would be required in the field and that those still engaged in productive service would be mainly employed in making goods for internal consumption and for the use of the army. Even so, the demand for such goods far exceeded the internal capacity for supply and in consequence most of the neutral countries of the world as well as the various dominions and dependencies of the Empire were given large orders for all kinds of commodities. This caused a reversal of the foreign exchanges due to a general unfavourable English balance of trade and the problem of financing her imports became urgent.

It is instructive to recall the methods that have been used for meeting this difficulty. In the first place, England has, in a sense, retained her position as a free market for gold. Not that, as before the war, gold could be freely withdrawn from the Bank of England for export, since the Bank has certainly exercised that sort of control which falls under the head of persuasion with regard to its customers. Nevertheless it has been understood that in case of necessity gold would be paid out and very large quantities have in fact been exported. This willingness of England to part with gold in order to meet an adverse exchange has been of the utmost service, but it has at the same time required the exercise of the greatest economy in use of the reserves. In any case the export of gold would, of course, have been hopelessly inadequate as the sole means of adjusting her trade balances.

The second and principal mode of adjustment by means of which she has been able to continue drawing upon supplies of foreign commodities has been by the export of her own capital or

the import of foreign capital. Large quantities of American securities held in London have been sold back to America and a lesser quantity to Japan, thus creating an export of claims to offset those represented by the import of American and Japanese goods.

Similar in effect has been the floatation of loans on the American market.

A third course of action has been the system of prohibiting the import into England of non-necessaries, in order, as far as possible, to reduce the unfavourable balance of trade. It is clear that the resort to the second and principal method of adjustment depends on the ability and willingness of the foreign country to redeem its own debts or to grant new loans, in other words, to receive as capital the payment for exported merchandise.

According to the *Economist* of 11th August 1917, America has lent to Great Britain a sum amounting to 415 millions sterling since the beginning of the war. When this sum is added to the very large amount of the American securities re-purchased from England it will be seen to what a large extent the American exports to England have been in the nature of a capital transaction. It is obvious that this course is far more to the interest of the exporting country than would be the receipt of payment in gold. For gold does not represent to any great extent a utility in itself but only a form of actual or potential purchasing power. A greatly increased quantity has the effect of sending up prices unduly with considerable hardship to those who are not in receipt of equally increasing incomes. Japan, for example, has felt serious inconvenience from the plethera of her gold stocks and is said recently to have been contemplating the actual prohibition of further gold import. But the chief reason why the receipt of purchasing power in the shape of gold is not in itself the most desirable form of payment lies in the fact that the war has presented to those countries able to take advantage of it a magnificent opportunity for the investment of capital by realising very high values for exported commodities and using the proceeds for the purchase of securities at low prices.

After the war these capital investments are likely to appreciate in value while the merchandise for consumption will become cheaper. Thus over a period of some years a given country obtains a far larger sum of utilities by selling its goods on credit now and realising payment after the war. It is thus an important question to ask how far India is taking reasonable advantage of these opportunities. The answer will depend upon two considerations:—

(1) To what extent have the facilities for Indian exports been reasonably secured, and

(2) To what extent has Indian capital been forthcoming for investment, either from the normal resources of Bank deposits, from hoarded gold or silver, or by means of compulsory saving through the instrument of taxation.

We may now return to a discussion of the second phase of the Indian problem. The central feature of this period is the unusually favourable Indian trade balances tending to a rise in the exchange value of the rupee. We may therefore briefly look at the nature of this balance. Neglecting the over-land foreign trade of India which is relatively unimportant, the principal facts relating to the sea-borne trade are given in the following tables:—

Private Imports (Lakhs of Rupees).

—	Average of 5 years 1909-10 to 1913-14.	1913-14.	1914-15.	1915-16.	1916-17.
Merchandise ...	145·84	183·25	137 93	131·99	149·62
Gold	32·78	28 23	10·70	5·24	13·33
Silver	10·89	8·39	11.06	6·61	1·56
Total ...	189·51	219·87	159·69	143·84	164·51
	Imports on	*Government*	*Account.*		
Merchandise ...	5·82	8·06	7·00	6·18	10·61
Gold	.. ...	......	......	4	......
Silver	3·53	6 82	3	5	23·55
Total ...	9·35	14·88	7·03	6·27	34·16

Private Exports.

Indian Merchandise ...	219·50	244·23	177·48	192·53	233·15
Foreign " ...	4·62	4·68	4·11	4·84	7·73
Gold	3·92	4·90	2·25	6·89	6
Silver	3·67	2·15	1·05	1·04	4·88
Total ...	231·71	255·96	184 89	204·80	245·82

Exports on Government Account.

Indian Merchandise ...	5	13	49	1 71	2·04
Foreign " ...	5	......	9	39	12
Gold	71	0	81	......	4
Silver	1	3	1·17	80	1 43
Total ...	84	16	2·57	2·57	3·63

Balance of Trade.

Net exports of Merchandise	72·56	57·73	36·08	61·30	72·81
Net Imports of Treasure	39·07	36·36	16·51	3·71	33·03
Net excess of Exports...	33·49	21·37	19·57	57·59	39·78

It will be seen from the above tables that the net balances of exports over imports of merchandise was considerably lower during the years 1913-1914 and 1914-1915 than the normal peace balances as shown in the average for the years 1909-10 to 1913-14. In 1916-17 it was only just past the normal. Further, the total value of merchandise exported during the first two years of war was much below peace normal and only rose moderately above it in 1916-17. Thus it would appear that the war for some time caused a decline in the volume of India's foreign trade from which she is, however, now recovering. A source of error in arguing from the statistics of Indian trade should here be noticed. The values of exported merchandise, as given to the customs officials, are required by the law to be the market values in the port of shipment. These values are often much less than the invoice values which include the shipper's profits. Since these profits are greater in war time the under-statement of values of exports during the last three years is probably much more than normal. It is a pity that the Customs departments are not empowered to demand invoice values for the compilation of their foreign trade returns. As these returns now

are they give a very imperfect measure of the real value of the Indian export trade.

If we now go on to take account of the imports and exports of the precious metals we find that, during the war, India's imports of gold and silver have been far below the normal.

In the case of gold the private imports have been 73 crores of rupees less for the last three years as a whole than they would have been if importation had been maintained at the average rate for 1909-10 to 1913-14.

In the case of silver the deficit below the average is 27 crores of rupees; a deficit only in part made up by the large import of silver on Government account during 1916-17 amounting to 23 crores of rupees.

So far then the favourable balance of trade in India during the war period has been due rather to a reduction in the imported precious metals than to an increase in exported merchandise. This fact is important because there are large numbers of people in India who prefer to take the sums due to them in the form of gold or silver as, so to speak, articles of consumption.

If the external supply is cut short the demand falls on the internal supply. It is probable that silver and gold are largely in the nature of a composite supply in this respect. Thus the great defect in imported gold has caused a great absorption of silver with a consequent strain on the available rupee currency.

So far we have only taken into account the favourable imports and exports included in the accounts of sea-borne trade but if we wish to estimate the true balance of indebtedness upon which the problem of foreign exchange depends account must be taken of a number of other claims which do not appear in the ordinary balance of trade. Thus normally India exports goods in ships owned by other countries. The value of exports, as given in the figures, does not include freights. The claim by the Indian exporter does so however. Thus, for the moment, the figures for exports are understated in the official returns, but the freights originally paid

in India are in the main remitted abroad, thus in part offsetting the drawings for payment on account of the exports. With the great rise in freight rates due to the war this item is of increased importance.

It may here be asked does it matter from the point of view of exchange where the freight is paid. For example, normally export freights are paid in India but for part of the period of the war they have been largely paid by the importers in England. The bills drawn by the exporter for payment of his goods are thus reduced in amount. But the remission of freight receipts to the foreign ship owners is similarly reduced. Thus, except quite temporarily, the balance of trade is unaffected.

Another important influence affecting the balance of claims is the import or export of capital and profit. Normally India is an exporter of profits and an importer of capital. But during the war period she has been predominently an exporter of both. Capital has ceased to flow in as largely as before while large sums have gone out for investment in the English War Loans and as War Profits.

The broad conclusion therefore regarding India's balance of indebtedness during the three years for which the figures are here given is that no great expansion has occurred in the export of Indian commodities. Rather, allowing for the high range of prices, the actual quantities, taken as a whole, have fallen. Thus India has not, like America and Japan, experienced a great boom in her export trade, although in the case of a few industries great prosperity has prevailed.

On the other hand the large falling off in the import of the precious metals has resulted in a favourable balance as shown in the tables given above. The really important factor in the situation however is the large expenditure by the Government of India in respect of work undertaken on behalf of the British Government. It is necessary to consider how this affects the exchange and currency problems.

The Indian outlay consists of payments for the services of troops and the supply of war material of various kinds consumed either in India or abroad, and these payments are made from the proceeds of Indian taxation or of Indian loans. Indian trade is stimulated and there is an increased demand for Indian currency, but although, so far as the national account keeping is concerned, the result may be classed as an invisible export from India giving rise to a potential claim upon England, yet until that claim comes to be settled there is no effect on exchange. The central fact of the situation is that for the moment these claims have not, and some might argue could not, have been settled.

The position then is this:—On the one hand India has a favourable balance of trade causing a demand for remittances to India as a means for the continued financing of that trade; on the other hand the Indian Government by economising in her normal expenditure, by additional taxation, and by internal loans has diverted large resources to special war expenditure on account of the Home Government, thus reversing the normal position when India has to provide a surplus of exports on account of Home Charges. Now it is rather England who has to find a surplus of exports in payment of the invisible Indian export on war services.

We may proceed to examine the manner in which this position has been dealt with. Throughout the latter half of 1916 there was a steady absorption of rupees and, despite large silver purchases by the Government and abnormal activity at the Mints, a steadily dwindling stock of Currency in the Reserves. Apparently this great absorption was unexpected and the reason for it not fully understood. The position did not become acute until the close of 1916. By that time the demand for trade remittances to India was causing a rapid advance in the rate of exchange and telegraphic transfers rose to 1s. 4-4/32d. in the middle of December.

It was apparent that the situation was critical and that unless steps were taken immediately the attempt to maintain a stable exchange would entirely break down.

We may now ask what means were theoretically possible for the purpose of adjusting the balances and of enabling the Government to maintain a stable rate.

The first and normal method by which the adjustment of the balance of trade might have been secured would have been the large growth of private imports. The plentiful harvest of 1916 together with the prosperous state of India's staple export trades undoubtedly placed a large additional purchasing power in the hands of the people. During the year 1915-16 the absorption of rupees and notes into active circulation was 1,963 lakhs. But although all this purchasing power was flowing into the hands of the people it was not used to swell the purchase of foreign imports. The value of imported goods was even lower in 1915-16 than in 1914-15. The reason was no doubt in part the greatly enhanced price of such imports causing on the one hand, an actual abstention from consumption; on the other, a substitution of Indian for foreign manufactures. In very many small trades the war has caused a development of Indian industry. Another reason was the shortage of shipping. But the chief explanation is undoubtedly India's habit of hoarding. As has been said there are many persons in India who prefer to take their payment in gold or silver for purposes of hoarding. With the great restriction upon the power of obtaining gold the alternative course was adopted of hoarding rupees instead. The net result has been that imports have not risen *pari passu* with exports and the tendency for an excessive balance of trade has continued.

The second method by which the exchange might have been kept stable was by the increased sale of Council Bills. When such Bills are sold, not for the purpose of transferring funds from the Treasury balances in India to the balances in London, but for the special purpose of exchange, the normal practice has been to receive payment in gold in London ear-marked at the Bank of England and to meet the balance in India from the various reserves. But owing to the need to maintain the available gold resources in London as

free as possible this practice has recently been abandoned to a large extent. By Act IX, 1916, the Government was empowered to hold Rs. 200 million of the Paper Currency Reserve in the form of securities instead of Rs. 120 million as stated in the Act of 1910. Of this Rs. 100 million might be held in London. Further, by the same Act, the Government was empowered to issue currency notes up to a limit of Rs. 60 million against an equivalent value held in Treasury Bills in London. Thus the total additional note issue of 14 crores was rendered possible without a deposit of gold or silver. Notwithstanding this increased element of elasticity in the internal circulating medium the demand for Council Bills towards the close of the financial year 1916-17 was so great that Government was unable to meet it to the required extent without incurring the danger of entirely depleting the stock of rupees in the Paper Currency Reserve.

If we look at the Gold Standard Reserve we find that on 31st March, 1915, there was £5,238,000 in gold in India. On 31st March, 1916, this had fallen to £235,000. On 31st March, 1917, the whole of the Gold Standard Reserve was held in the form of securities in London. thus no part of the Gold Standard Reserve was available for the support of exchange in India.

Again if we look at the Paper Currency Reserve we find that the stock of rupees in India had fallen from 40 crores at the end of July, 1915, to 23 crores at the end of March, 1916. In December of 1916, the stock was as low as 14 crores. In the early part of December, 1916, the Secretary of State was selling Council Bills to the extent of £2 million or 3 crores of rupees per week. The capacity of the Mint to coin new rupees was taxed to the utmost but the silver purchases of Government could not keep pace with this rate of sale. Thus on 20th December, the Secretary of State withdrew his offer of Bills without limit and offered only 80 lakhs. This limit was raised to 120 lakhs in the following week and continued at this rate for some time, when it was again reduced to 90 lakhs. A reduction from 300 lakhs to 80

lakhs inevitably threw the exchange market into something like a state of panic. The exchange jumped rapidly from 1s. 4⅛d. to to 1s. 4 7/32d. But in the absence of special measures it might quickly have risen to almost any figure. An exchange of 2s. was not impossible.

In considering this crisis it is impossible to avoid the conclusion that it reveals, and not for the first time, an important defect in Currency Administration.

Throughout India's recent monetary history one fact is strongly emphasized—namely, that the authorities have paid far more attention to the danger of a gold drain than to that of a silver drain. It is natural that it should be so. To maintain India's vest rupee currency on a gold basis is ultimately a more difficult problem than that of providing an adequate supply of token coinage in India. Nevertheless in the short period it is easier to expand the gold resources available for India abroad than the silver resources available in India and for this reason it is the more important to maintain a special silver reserve against emergencies of this nature.

The subject is fully considered in the letter of the Government of India to the Secretary of State, 26th April, 1906. It is there said "From first to last our only practical difficulty has been the timely provision of rupees." It is pointed out that to restrict the sale of Council Bills disorganizes trade and only postpones the evil. "The adoption of such expedients can therefore only be justified by extreme and pressing emergency." "It follows that for permanent safety these stocks (*i.e.*, of silver) must be materially strengthened; that their maintenance at a high figure must be recognized as a fundamental obligation of Currency Administration; and that we must accept any modification of system which these conditions may necessitate."

The practical outcome of this was the proposal to hold a special silver reserve outside the Paper Currency Reserve of 600 lakhs of tolas of silver bullion.

It has been pointed out that this sum of 600 lakhs of Silver in the Gold Standard Reserve was transferred to the Paper Currency Reserve in the early days of the war in order to strengthen the gold position in London. But when the situation changed no adequate steps were taken to provide against a danger which had been so clearly appreciated in 1906 and was so likely to recur in 1916.

The measure of the error is not to be found in the necessity for the curtailment of the amount of Council Bills offered for sale in itself. It has already been argued that it would not be for India's good that an unlimited balance of exports should be paid for by a continuous inflow of silver. But the error has lain in permitting a situation to arise when there was no alternative to sudden action of a drastic nature as an escape from a suspension of cash payment. As it was the curtailment of Council Bills was inevitable and the only question to be decided was the action to be taken regarding the rate of Exchange. Two courses were open—viz., to allow the action of demand for Bills free play and to permit the Exchange rate to rise to its competitive level, bringing in its train such consequences as would naturally follow; or, on the other hand, to restrain the rate by an authoritative control of export business and the demand for Bills. The decision of Government was in favour of the second alternative. The discussion of this and subsequent problems arising in the main from the rise in the price of silver will be taken up in a subsequent article.

C. J. HAMILTON.

THE TRANSFERABILITY OF OCCUPANCY HOLDINGS IN BENGAL.

PART II.

IN Part I. I gave a general outline of the land-sale question prior to the passing of the Bengal Tenancy Act. Before I refer to the different stages of the controversy during the progress of that measure, it will be convenient briefly to notice the conclusions arrived at by the Rent Law Commission and by the Famine Commission of 1880.

Dealing with the question whether occupancy right should be made transferable by sale or mortgage, the Famine Commissioners observed:—"Very different conclusions have been arrived at, one party contending that the right is imperfect and incomplete unless it can be sold, the other fearing that if it becomes a marketable property the tenant will be tempted to borrow on the strength of it, and will so be led into debt, with the same evil results as have occurred in the case of the proprietors in some parts of the country. In the North-Western Provinces when the Rent Act was under revision in 1873, the latter view prevailed, and these occupancy rights were then declared not transferable, and in the Bill now under consideration for the Central Provinces it is proposed to make them transferable only to such persons as can inherit from the tenant. In Bengal, on the other hand, the majority of officers, headed by the Lieutenant-Governor, desire that the rights should be made transferable by sale, and see in this provision a measure which will tend greatly to strengthen the tenants' position." The conclusion arrived at by the Commissioners was that, though on the whole they regarded the general concession of the power of sale of these rights to be

expedient and ultimately almost unavoidable, the immediate course to be followed by the Government must be to a great extent governed by local custom. "Where the custom has grown up and the tenants are in the habit of selling or mortgaging their rights in land, it should certainly be recognised by the law, and where it has not, it may be questioned whether the law should move in advance of the feelings and wishes of the people."[1]

The majority of the Rent Law Commissioners proposed to declare occupancy holdings to be transferable by private sale or gift or in execution of a decree for their own rent and devisable by will; the consent of the landlord was not to be necessary to the validity of such transfer or devise. They proposed at the same time to prohibit the raiyat from mortgaging his holding. They observed:—"We think that this will most effectually prevent the raiyat and his holding from falling into the hands of the *mahajan*: and that the danger which some persons apprehend, of *mahajans* becoming the owners of occupancy holdings, while the *quondam* raiyats will remain on the land in a degraded condition of serfage will thus, to a considerable extent, be obviated."

The Lieutenant-Governor (Sir Ashley Eden) was of opinion that mortgages were often better for the raiyat than sale. He proposed to allow the fullest freedom of transfer to the raiyat, subject to veto by the landlord, if the purchaser were not resident in the vendor's village The ground on which it was proposed to give the zamindar this power was that no one ought to have a more lively interest in the raiyats' welfare than their landlord and that none could have more local knowledge. Sir Ashley Eden's proposals were considerably modified by the Government of India. In the Bill introduced in Council in 1883, it was recognised that an objectionable tenant should not be forced on the landlord against his will and it was proposed to guard against this by giving him a right of pre-emption in every case of transfer. The right of occupancy was

[1] Report of the Indian Famine Commission (1880), Part II, pp. 119-120.

by custom transferable throughout a very large portion of the area to which the Bill applied and the Government of India held that there was no evidence of any evil consequence having arisen from such transfers. It was therefore proposed to make the interest of the occupancy raiyat legally transferable subject to certain rights reserved to the landlord. Mr. Rivers Thompson (as he then was) who had succeeded Sir Ashley Eden approved of the recognition of free sale unreservedly in Bengal, although he had some doubts as regards Behar. "He admitted that the intrusion of the money lender was undesirable; but he believed that such intrusion was not always a practical danger, as the British Indian Association itself had admitted, while it might, when dangerous, be guarded against. Granting this to be possible the Lieutenant-Governor was satisfied that the recognition of the right of transfer would create a direct interest in the improvement of the soil, would stimulate cultivation, would tend to establish a substantial peasant proprietary, would give a valid security for the realisation of the landlord's rent and by increasing the marketable value of the land, would lower the rate of interest when the raiyat had to borrow."

In the Bengal Tenancy Bill, 1884, the pre-emption sections were reproduced and the "convertible tenure-holder" was created as remedies against the expropriation of the raiyat by the money-lender. In the meantime the Government of Bengal collected statistics and other evidence the result of which is thus summed up in their report to the Government of India:—"The main fact appears that transfers of occupancy holdings are chiefly made to cultivating raiyats. And as far as Bengal Proper is concerned, the great weight of evidence in the papers now submitted to the Government of India is to the same effect, that hitherto the operation of free sale has not been to throw into the hands of money-lenders, unconnected with cultivation, any disproportionate share of raiyats' land." The Government of Bengal proposed to recognise transferability in Bengal (but not in Behar), but recommended the abandonment of the pre-emption clauses of the Bill in cases of private

transfer. These clauses were strongly opposed by the zamindars who declared them to be illusory On the other hand, it was thought that the introduction of the right of pre-emption "would very seriously depreciate the value of well-established occupancy interests." Further, there was a consensus of opinion that the difficulties in working the pre-emption sections would be almost insuperable. It was proposed, therefore, to do away with the pre-emption sections and in lieu of them to give to the landlords a veto if the purchaser happened to be of the objectionable class of money-lenders. "To enable the landlord to exercise his veto, notice of the sale must be given him, and he may then, within a reasonable period, object to it on the ground of the purchaser being a person not relying on agriculture for his chief subsistence and income. If the objection seems to the Registrar untenable the sale will be confirmed. If the objection be established the sale will not be registered; but in this, as in the preceding case, the parties will be left to their civil remedy." At the same time the omission of the provision relating to the "convertible tenure-holder," was recommended mainly in deference to the opinion of the officers whom the Government had consulted, although the Lieutenant-Governor personally was on the whole in its favour As regards Behar, further inquiry elicited the fact that although the custom obtained to a limited extent, it could by no means be said to affect largely the agrarian economy of the Province. The Bengal Government did not, therefore, favour the recognition of free transfers by private sale in Behar. It was proposed to provide at the same time for the safe-guarding of the custom, wherever it existed.[1]

The Select Committee decided to leave the question to custom both in Bengal and Behar. The clauses of the Bill legalising and regulating transfers of occupancy rights were accordingly omitted. The form in which the Bengal Tenancy law was ultimately enacted provided for the saving of the custom or usage where it existed or

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1 Report of the Government of Bengal on the Bengal Tenancy Bill, 1884, pp. 15-23.

might grow.[2] The reason for this decision was thus stated in the Council by Sir Steuart Bayley, the member in charge of the Bill :—

> " I am at liberty to state that I personally adhere to the opinion I expressed in the first debate to the effect that both in Bengal and Behar the custom has taken such deep root that it is desirable to legalise and regulate it, and that in both provinces this course would, in the long run, if not in the immediate future, be attended by beneficial results both to cultivators and to the productiveness of the country and so far I sincerely regret the decision arrived at. But I am bound to admit, apart from the arguments direct against the principle of transferability,—arguments founded on injury to the landlord, expropriation of the raiyat and rack-renting of the actual cultivator,—I am bound to admit that the Committee found immense difficulty in devising any practical scheme of pre-emption, any satisfactory safeguard against the dreaded money-lender, any equitable method of securing to the landlord the fee which he now gets in some parts of the country, without injuring the raiyat of other parts where they habitually transfer without payment of a fee and that in view of these difficulties there is something to be said for leaving the custom to strengthen itself and crystallise into shape which may hereafter render its regulation less difficult than at present."[3]

One of the main points on which the discussion turned was whether any and what fee should be payable to the landlord, as will appear from the following remarks of Sir William Hunter (then Mr. Hunter) during the debate in Council :—

> " But when the incident to which the custom was subject came to be discussed, there was nothing to guide the

[2] Section 178 (3) (d) and Section 183, Illustration (1).
[3] *Gazette of India* Extra Supplement, 14th March 1885.

> Committee. Some members maintained that the custom was subject to a fee to the landlord for registering the transfer. Others contested this position; one member thought that fee should be as high as 25 per cent., another thought there should be no fee at all. In the end the right of sale was dropped out of the Bill, chiefly because no agreement could be come to in respect to the conditions to which the sale should be subject."

Mr. Amir Ali brought forward an amendment proposing the re-insertion of the clauses of the former Bill with the addition of a proviso to the effect that, where the right of transfer by custom did not exist, the landlord should be entitled to a fee of 10 per cent. on the purchase money. Babu (afterwards Raja) Peari Mohan Mukherji, who represented the British Indian Association, did not raise any objection to the scale of the fee proposed by Mr. Amir Ali; he would, however, have not only a fee for the landlord, but would give him the power of vetoing sales on three grounds, namely, that the purchaser was not a cultivator, that he was a bad character and that he was an enemy of the landlord. Mr. Reynolds thought that a fee of 10 per cent. was too high, he also opposed the amendment on the ground that there was no provision in it for ensuring that occupancy holdings, when sold, should continue to remain in the hands of the agricultural classes. At the same time he admitted that the case of Bengal was different from the Sonthal Parganas and the Dekhan where the money-lending classes were an alien race. In the end the amendment was withdrawn.[1]

In Part I. we have seen that in the middle of the last century there was a tendency towards the growth of the custom of free sale independently of the landlord's consent. For some time before the Tenancy Act Legislation, the zamindars had begun to question the validity of the claim set up by the raiyats in this respect. The general effect of the decisions was that occupancy right was not transferable, but that custom or local usage might make it so. The

[1] *Gazette of India* Extra Supplement, 2nd May 1885.

attention which the subject attracted during the Tenancy Act Legislation awakened the zamindars to the danger of their position and there has been much litigation since then. The provision contained an illustration (1) of section 183, which lays down that a usage under which a raiyat is entitled to sell his holding without the consent of his landlord is not affected by the Act, has proved a delusion and a snare to the raiyat. The burden of proving a custom or usage is on the party who alleges its existence and the raiyat is obviously at a disadvantage.

In a case in which the Lower Appellate Court had found that there was abundant evidence on the record to show that occupancy holdings were actually sold in the locality and the *kobalas* filed supported that fact, the High Court held that this did not amount to a finding of local usage. In another case it was held that the finding that tenants transferred their rights of occupancy without the landlord's consent did not in itself establish a usage in this respect, so as to affect the landlord's right to accept or refuse to consent to such transfer. Again, it was held that a growing usage of the transferability of occupancy holdings was of no effect against the landlord; the usage to be effective must have already grown up. Where no custom or usage was proved, there was a divergence of views as to whether the sale of an occupancy right was absolutely void or whether it was merely voidable at the will of the landlord. It is unnecessary to refer here to the cases in detail. The latest pronouncement is that of the Full Bench in the case *Dayamayi* vs. *Ananda Mohan Ray Chaudhuri*.[2] The propositions laid down in that case are reproduced below:—

In transfers for value of occupancy holdings, apart from custom or local usage:—

(*i*) The transfer of the whole or a part is operative against the raiyat

(*a*) where it is made voluntarily;

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[2] I. L. R., 42 Calc 172.

(*b*) where it is made involuntarily and the raiyat with knowledge fails or omits to have the sale set aside.

A sale is made involuntarily, where it is made in execution of a money decree but not of a decree founded on a mortgage or charge voluntarily made.

(*ii*) The transfer is operative as against the landlord in all cases in which it is operative against the raiyat, provided the landlord has given his previous or subsequent consent. Where the transfer is a sale of the whole holding, the landlord, in the absence of his consent, is ordinarily entitled to enter on the holding; but where the transfer is of a part only of the holding, or not by way of sale, is not ordinarily entitled to recover possession of the holding unless there has been

(*a*) an abandonment within the meaning of section 87 of the Bengal Tenancy Act;

or (*b*) a relinquishment of the holding;

or (*c*) a repudiation of the tenancy.

(*iii*) The transfer of the whole or a part is operative as against all other persons where it is operative against the raiyat.

The present position is that the raiyats, as a rule, have failed to prove the existence of a custom or usage entitling them to sell their holdings without the landlord's consent. The sales are valid only when the landlord gives his consent. The practical effect of this is to give the landlord an unlimited power of veto. In spite of obstacles there has, in the meantime, been a steady increase in the number of sales. The consent of the landlord is not usually obtained previously to the transfer, but it is generally given as a matter of course when the *salami* demanded is paid. It would not be difficult to show, however, that the zamindars are using their power to veto for the purpose of raising the scale of the *salami*. In 1885 the zamindars would probably have been satisfied with 10 per cent. of the purchase

money; anyway they did not then claim more than 25 per cent. According to the British Indian Association the percentage usually levied at present ranges between 25 and 50, the latter percentage being often realised in East and North Bengal. During the Tenancy Act Legislation, the Government considered even 10 per cent. to be excessive and were apprehensive of injuring the raiyats who habitually transferred without payment of a fee. Now the British Indian Association has asked for an all round rate of 33 per cent. and evidently consider this to be a moderate demand. In some part of the country enhancement of rent is demanded in addition to the share of the purchase money. This result was not altogether unforeseen in 1885. Mr. Amir Ali, when introducing his amendment for the re-insertion of the clauses relating to the transferability of occupancy holdings, said:—

> "The question having been raised as to the right of the occupancy raiyat to transfer the tenure, there is every reason to fear that the zamindars, even in those places where the right of transfer has been up to this time exercised without question will not allow it, unless a substantial portion of the purchase money is made over to him."

Sir William Hunter remarked as follows:—

> "I believe that by leaving the sale to custom we are subjecting poor men, needy men, to a number of very serious inconveniences during the process of sale."

The landlord is ordinarily entitled to re-enter a holding which has been transferred without his consent. This right is, however, exercised only in exceptional cases and that not by all zamindars. In a sense the zamindars may claim that they have been moderate, as they are content with the levy of the *salami* only. The sales are, however, so numerous now that any general attempt to exercise the right of re-entry is probably not workable in practice and may lead to agrarian trouble. It is a matter of regret that the zamindars have not done anything towards preventing the raiyati lands from passing into the hands of the objectionable type of *mahajans*.

During the Tenancy Act Legislation the spokesmen of the zamindars professed to be anxious to keep out money-lenders, but it is doubtful whether such desire exists amongst the general body of the zamindars. It is well known that the zamindar has no objection to a money-lender as such and a money-lender transferee has no difficulty in obtaining recognition, provided he pays the *salami* and is not objectionable to the zamindar on personal grounds.

I do not by any means say that, within recent years, there has been any noticeable increase in the proportion of money-lender purchasers of occupancy holdings. According to the statistics of the Registration Department, about 16 per cent. of the purchasers of occupancy rights were *mahajans* and traders at the time of the Tenancy Act Registration (*vide* Report of the Government of Bengal on the Bengal Tenancy Bill, 1834, Vol.. II., p. 64). Similar statistics are not nowadays furnished in the published reports of the Registration Department. Statistics are available in the reports up to 1902 and up to that period the proportion did not vary much from 10 per cent. In the Government Resolution on the report for the triennium ending 1901-02 it is remarked :—" The number of *mahajan* purchasers has slightly increased in these years, but in proportion to the number of these transactions the number of such transactions has certainly decreased. . . . The large increase of raiyat purchasers negatives the explanation that the raiyats as a body have been hardpressed and forced to sell their holdings, nor would this explanation fit in with the rise in the value of these holdings." The following remark occurs in the Resolution relating to the triennium ending 1898-99 :— " The figures, the Lieutenant-Governor is glad to see, indicate no increase in the percentage of those holdings which pass into the hands of money-lenders, the transactions being chiefly and increasingly between raiyats." In the Resolution relating to the triennium ending 1895-96 satisfaction is expressed that raiyats formed 70 per cent. of the purchasers of occupancy holdings. In the Resolution for the triennium ending 1892-93 it is stated " as usual, the raiyats

were foremost among the purchasers of holdings with rights of occupancy, being 68·6 per cent. of the whole number." There is no reason to suppose that this state of things has changed since then, and that the proportion of sales in favour of the moneyed classes has increased. At the same time it must be recognised that as there has been a considerable increase in the number of sales the number of cases in which land has passed into the hands of non-agriculturist classes must have increased.

There is no question that the law in regard to the transferability of holdings is at present in an unsatisfactory state. In the Full Bench case (*Dayamayi* vs. *Ananda Mohan Ray Chaudhuri*), already referred to, the High Court observed " the uncertainty as to the transferability of holdings has been one of the most fruitful source of litigation, and it is urgently necessary that it should be set at rest by the Legislature." The position is recognised by the Government, by whom a Draft Bill to amend the existing law on the subject was prepared some time ago and circulated to the Public Bodies for their opinion. According to later announcements the Bill is still under consideration of the Government and it will probably be worth while to discuss the proposals of the Draft Bill in the present connection. It is not my intention to attempt a detailed criticism of the Bill but I shall confine myself to a consideration of the general principles underlying it.

It will be convenient to give a brief summary of the main provisions of the Draft Bill. Section 26A provides that every occupancy holding shall be capable of being transferred by private sale, by gift, will, sublease or usufractuary mortgage in the manner prescribed in the Bill and Sec. 40J lays down that, save as provided in the Bill, no transfer of an occupancy holding (otherwise than by sale in execution of a decree for arrears of rent) shall be valid against the landlord, unless and until he has given his consent to it. Sec. 40B of the Bill requires the transferee of an occupancy holding to apply to the landlord within one year of the date of the transfers for its registration tendering at the same time a fee not exceeding 25 per cent. of the

consideration money or to five times the annual rent of the holding, whichever is greater. If the landlord accepts the fee, his consent to the transfer shall be deemed to have been given (Sec. 40 C). If the transferee is not a cultivating raiyat or has not acquired the holding for the purpose of cultivating it by himself or by members of his family or by hired servants or with the aid of partners, the transferee shall be deemed as between himself and his tenants (if any) to be a tenure-holder; as between himself and his landlord he will be the successor in interest of the transferor (Sec. 4 I). If the landlord refuses to accept the fee tendered it is open to the transferee to deposit the fee with the Collector and apply to him for registration of the transfer. The Collector, after giving notice to the landlord and the transferor, shall decide whether there is any good or sufficient reason why the transfer should not be registered. If the Collector finds that there is no such good reason, he shall cause the fee to be delivered to the landlord and shall declare that the transfer has been registered. In considering such reasons the Collector shall have regard to the following circumstances:—(i) whether the transferee is a cultivating raiyat or is acquiring the land for the purpose of cultivation; (ii) whether the transferee resides within or in the vicinity of the village; (iii) whether the transfer will create unreasonably small holdings and (iv) whether the transferee is a habitual defaulter or otherwise likely to prove an objectionable tenant (Sec. 40 D). If the transferee fails to apply for registration, the landlord may, within three years from the date of transfer, apply to the Collector for declaration that the transfer is void or for realisation of the registration fee. If no application is made within three years the transfer shall be deemed to have been duly registered (Sec. 40 H). No usufractuary mortgage by a raiyat for any period exceeding nine years shall be valid unless with the express consent of the landlord (Sec. 85 A).

The general effect of the provisions of the Bill is that, subject to the payment of a reasonable fee to the landlord, transfers by private sale, gift or will be allowed freely, when the transferees are agriculturists and are not objectionable to the landlord on personal

grounds. By some authorities it is held that the power of alienation is always a dangerous gift to confer on the raiyat. It is generally admitted, however, that it is neither possible nor desirable to prohibit sales altogether and that the evil effects of the right of free sale are greatly mitigated, if the intrusion of the money-lender can be prevented. In some administrations the desired object is sought to be attained by providing that no alienation of land shall take effect as a permanent alienation, until sanction is given to it by the Collector. In some provinces the alienations are voidable at the option of the landlord, it being assumed that he will exercise his power to keep out *mahajan* purchasers. Probably the province in which the restrictions are the most stringent is the Punjab, where the political aspect of the question is of special importance. Under the Punjab Alienation of Land Act, permanent alienation by a cultivator is allowed only within the agricultural tribe to which he belongs or within a group of cognate tribes. The object is to narrow "the opportunities for sale to an extent which will remove the temptation to sell needlessly, yet will afford a sufficient market in cases of real necessity." It is claimed that under this system "the powerful factor of sentiment comes in and the land, though lost to the individual, is not lost to the tribe."

As a consequence of the law of equal inheritance, all landed property in India tends to be subdivided into small shares. In course of time agricultural holdings become too small for the support of the families owning them and the acquisition of additional land becomes a necessity. The area of culturable waste land is diminishing yearly and in some parts of the country there is little or none; so, it is often the case that the additional land required must be bought. Some families foresee the necessity and try to provide for it by practising thrift. The members of these families seek to buy land, while others who have become impoverished wish to sell their land. It should be remembered that there is a natural tendency amongst all classes in India to increase their landed possessions, whenever their means permit. At the root of this sentiment is the desire to make provision

for descendants, for whom the property originally owned will, sooner or later, cease to be a sufficient means of support. The professional money-lender, who plays an important part in the rural community, often exploits the raiyats for his own ends. The raiyat has often to pledge his land as security for debt. This ultimately leads to the sale of the land and not infrequently the money-lender is the buyer. When this happens to any large extent, many evil consequences follow, especially when the money-lenders are aliens.

In Bengal the family bond is loose and the joint family is disrupted earlier than in other parts of India. It is probable that owing to this reason the general tendency described above is accelerated. It should also be borne in mind that owing to the fertility of the soil there is a certain amount of prosperity amongst the agricultural classes of Bengal, and the proportion of the raiyats who can buy land is larger. In the result the land is kept more freely circulating in the market than in the other provinces and with the growth of population the number of transfers by raiyats is rapidly increasing. So far as the statistics are available, the transferees are mostly agriculturists, only a small proportion being money-lenders or traders. This is a satisfactory feature. This was the case also at the time of the Tenancy Act legislation and Sir Rivers Thompson rightly laid great stress on this fact, when sending up his proposals to the Government of India.

It will be seen from the above that under the existing conditions there is no need for a stringent measure in Bengal. It has been shown already that under the present system, the landlord has practically a veto in all transfers. The Bill so far as it proposes to remove the landlord's veto, when the transferee is an agriculturist, is a move in the right direction. The transfers of this class are not open to any serious objection and ordinarily it should not be possible for the landlord to interfere with them. We have seen that the present tendency amongst the landlords is to make use of their power of questioning the validity of sales for the purpose of enhancing the *salami* payable to themselves. In many instances the

zamindars have been grasping and the increase exacted is wholly unreasonable. Clearly legislative interference is urgently needed to check this tendency. The Bill proposes to remedy the evil by fixing a reasonable transfer fee. A fee of 25 per cent. of the purchase money *(chauth)* probably represents a very old custom. It would appear that for a time during the last century the custom was not enforced uniformly. I have discussed the circumstances already in Part I. of this article. The public sales of tenant's rights raised a doubt whether such rights were not transferable independently of the landlord's consent. The zamindars themselves were not certain of their position and were probably content with that they could get. In this way a reduced *salami* was paid in many cases, and there were no doubt many others in which payment was altogether evaded. It was probably owing to this cause that the point appeared to be so confusing to the framers of the Tenancy Act. But whatever might have been the case then, there is no doubt that the zamindars have now more than retrieved their position. As matters stand at present it will not be practicable to fix the fee at less than 25 per cent. It is a reasonable rate sanctioned by old custom to which both landlords and tenants should agree.

The zamindars contend that the raiyats have no proprietary right in the soil, such right having been vested in the zamindars by the Permanent Settlement. It is argued that any concession in favour of the raiyats would therefore take away the vested rights of the zamindar and would not be justified. After the Tenancy Act legislation the question can only have an academic interest but as it is often mooted, I shall make a few remarks to show that the contention of the zamindar is not tenable. In the judgment of the Privy Council case (*Collector of Trichinopoly* vs. *Lukkamani*) the following observations occur :—" The words ' proprietors of land ' as used in the Bengal Code of 1793, and in the Madras Code of 1802 has a technical signification (See the definition in Bengal Regulation VIII. of 1793, Secs. 5, 6 and 7). They refer to zamindars, independent talukdars and others who pay the revenue assessed upon their estates

immediately to Government."[1] This is an *obiter* so far as the Bengal Regulation is concerned, as the case before the Privy Council related to a Madras Regulation, but an *obiter* of the Privy Council is entitled to the highest respect. The same judgment lays down:—
" It is a maxim that affirmative words in a statute without any negative expressed or implied do not take away an existing right." If this maxim is followed, the declaration that the property in the soil is vested in the zamindar could not affect the raiyats. I have shown in Part I. that both according to the Hindu and Mahomedan jurists, cultivators had a proprietory right in the land independently of the Sovereign and the right was never taken away from them. The following extracts from a note recorded by Mr. Justice O'Kineally may also be quoted here :—

" The term proprietor, as far as the Permanent Settlement is concerned, means zamindars, talukdars, chowdrees, mortgagees and in cases of dispute, the party in possession. Whatever rights were given by the settlement were rights given equally to all these persons and this is worthy of remembrance, because many people think when they hear the person settled with called 'proprietor' that the settlement gave him unlimited rights in the soil.

All that it (the Legislature) did do—all that the great founder of the settlement ever intended it should do—was to give zamindars, subject to custom a perpetual lease of the land at a fixed assessment and subject to the restriction of State intervention if the conditions of their leases were violated to the injury of the raiyats. The law did not covertly destroy or modify the rights of private individuals, who had been from the commencement of the dewani and in the pursuance of a determined purpose governed according to the laws, usages and customs in the mild spirit of the British constitution." (1)

It may be conceded that an undesirable tenant should not be forced on the zamindars. They have always attached great importance to the question of the choice of tenants. A refractory tenant

[1] 21 W. R., 358.
(1) *Calcutta Gazette* (appendix), 21st July 1880, pp. 450-451.

is a source of real trouble to them. The Bill proposes to retain the landlord's power of questioning a transfer when the transferee is likely to prove an undesirable tenant, subject to this limitation that the Collector will have the power to decide whether the landlord's objection is reasonable or not. No exception can be taken to this.

In the same way the Draft Bill seeks to keep out the transferee who is not a cultivating raiyat and is not acquiring the land for the purpose of cultivation. Such transfers can be invalided by the Collector, but the initiative rests with the landlord. If the landlord chooses to accept a *mahajan* transferee, the Collector cannot interfere. It is assumed that the landlord will generally reject such a transferee. The underlying theory, which was originally enunciated by Sir Ashley Eden, is that no one ought to have a more lively interest in raiyats' welfare than their landlord, that none could have more local knowledge and that, therefore, that interest and experience should be utilised. The soundness of the theory is not, however, borne out by experience. What will happen in most cases is that the landlord will demand a higher fee than that prescribed by the law. The transferee will submit to the demand, because he knows very well that his position will be precarious, if the matter is taken to the Collector whether by himself or by the landlord. It will therefore be so arranged that the matter will not come to the Collector at all and the " dreaded " money-lender will remain in occupation. To adopt the language used by the Government of Bengal in 1883, the result would be that " a system of fines would grow up which would have the two-fold effect of reconciling landlords to dealings with all sorts of *mahajans* who would best pay them, and of depreciating the value of the occupancy title to the raiyat, to whose shoulders the purchasing *mahajan* would in time transfer the full weight of the fine." As a rule the holding will be sub-let at rack-rent. Even when the landlord is not grasping and does not levy an extra fee, it will generally be to his interest not to disturb the money-lender transferee. If the Collector declares that the transfer shall not be registered, the effect of this will be that the transfer will be

void and the interest of the transferor will be deemed to have been unaffected by it (Sec. 40 F), in other words the old tenant will be reinstated. It comes to this that for the time being the landlord loses 25 per cent. of the purchase money and exchanges a substantial tenant for a tenant who in all probability is a bankrupt. It would be too much to expect that the generality of the landlords will make such a sacrifice merely from an altruistic motive. Lastly, a fact which should not be forgotten in this connection is that in Bengal many professional money-lenders are also landlords and when they take to buying the raiyati holding it is obvious that the provisions of the Draft Bill will be wholly inoperative. Yet a money-lender who is also a landlord is the person most to be dreaded.

It will be clear from the above that any attempt to reach money-lenders through the agency of landlords alone is bound to end in failure and should be definitely abandoned. The question arises, how the intrusion of money-lenders can best be prevented. If money-lenders are to be reached effectively, it is necessary that the Collector should be empowered to act independently of the landlord's initiative. One way of doing this would be as follows:—In every case of the transfer of an occupancy holding the Registering Officer should send an intimation to the Collector, whose duty it will be to inquire into the circumstances of the alienation. It should be noted that it will not serve the purpose to ask the Registering Officers to report those cases only in which the transferees are non-agriculturists with a view to confine the inquiry to them. In that case many professional money-lenders who may own some land,—and most of them are landowners,—will be described incorrectly as cultivators in the deeds. This will defeat the object of the law. The alternative is therefore to inquire into all cases of transfer in the first instance, in order to find out which of them are in favour of a non-agriculturist. The objection to this procedure is that it will increase the work of the Collector enormously and will unnecessarily harass the transferees who are agriculturists.

It may be doubted whether under the existing conditions an elaborate system like that described above is really needed in Bengal. I do not. however, see any means by which an inquiry into the circumstances of the sales to non-agriculturists can be secured, except by the adoption of some such procedure as that suggested above involving an inquiry into every case in which a holding has been sold by a raiyat

Probably the best plan would be merely to add a new provision empowering the Collector to make an inquiry on his own motion, when he is credibly informed that an occupancy holding has been transferred to a non-agriculturist. If the inquiry shows this to be a fact, the Collector should be empowered to invalidate the transfer, notwithstanding that the landlord may have previously consented to it. There should be a time limit within which this power must be exercised. At the same time the existing provision of the Bill should be retained. This is necessary to enable the Collector to take into consideration the circumstance whether or not the transferee is a cultivating raiyat, when the question whether the landlord's refusal to accept him should be supported or over-ruled has to be decided. There will probably be not many occasions for exercising the power reserved by the new provision suggested above, but its existence will tend to discourage non-agriculturists from buying holdings.

There are other ways in which the objectionable *mahajans* may be reached indirectly. There is no express provision in the Draft Bill regarding sales in execution of money decrees (other than rent decrees). The effect of Section 40 J will however be that such sales will be valid when the landlord consents, but they will not be regulated by any provisions in the Bill, since the other provisions concern only transfers by private sale, gift or will, Section 40 J will not stop the sales in execution of money decrees even when the landlord's previous consent has not been obtained, since it cannot be said that " the purchaser has no interest at all because he has at least the chance of obtaining subsequently the landlord's consent, which would complete and validate the purchase." It is however very

desirable that sales in execution of money decrees should be stopped altogether. It is in these sales specially that money-lenders of the objectionable type deal unfairly with poor debtors. A small debt is incurred by the raiyat in the beginning; but it is swelled not only by a high rate of interest but by various fraudulent devices. Sometimes the claims are altogether fraudulent. When the raiyat is sufficiently involved, the *mahajan* obtains a decree against him and sells the land which the *mahajan* himself often purchases. A private sale is made deliberately and although it is true that as a rule a raiyat does not sell his land unless he is indebted or otherwise distressed, he generally gets a fair value for what he sells. In an involuntary sale by the process of Court he is quite helpless and is often taken unawares; as a rule the value obtained is inadequate. It would be greatly to the benefit of the raiyats, if the sale of occupancy rights in execution of a Civil Court decree other than a rent or mortgage decree is forbidden by an express provision of the law. This is not a new proposal. The Rent Law Commissioners recommended that a right of occupancy, though saleable in execution of a decree for its own rent, should not be saleable in execution of any other decree.[1] From a study of the literature on the subject, I do not see that this recommendation was sufficiently considered either by the Government or the legislators of the time.

The Rent Law Commissioners also proposed that the raiyat should be absolutely debarred from mortgaging his holding. This proposal was rejected by Sir Ashley Eden and no doubt rightly, for it would contract the raiyat's credit to a serious extent which would hamper him in the pursuit of his industry. The effect of Section 40 J of the present Draft Bill will apparently be that mortgages other than usufructuary mortgages will be allowed, subject to the landlord's consent. This will introduce a novel principle, as the landlord's consent is not required at present to a mortgage, although a sale in execution of a decree founded on a mortgage is not operative against the landlord without his consent. If any restrictions are

[1] Report of the Rent Law Commissioners, Vol. I, p. 17.

to be placed on the raiyat's right of morgaging his land, they are required in the interests of the raiyat, not of the landlord. If the landlord is allowed to interfere, the result is not likely to be satisfactory. For instance, a landlord who is also a money-lender will withhold his consent to all mortgages other than those in his own favour and will moreover be in a position to exact his own terms as regards interest.

Similarly, Section 85 A so far as it lays down that landlords' consent is necessary for extending the term of usufructuary mortgages is open to objection. The restriction of the term of usufructuary mortgage is desirable, but the period of nine years is probably too short.

Mortgages between agriculturists are not open to serious objection. Evil consequences ensue when the mortgagee is a professional money-lender who often forces a sale and then buys up the land in order to sublet it at a rack-rent. It will be useful if the Collector is empowered to intervene at the stage when the decree of the Civil Court is under execution. The principle is not new to legislation. There are provisions in the Civil Procedure Code which enable the Collector to stay public sales of land and " liquidate the debts of the encumbered landholders without the immediate sale of their estates and so to preserve the old landed gentry of the country."[1] The provisions of the Civil Procedure Code (Sections 68 to 72 and Schedule III) are applicable to all landed property, but they are much too elaborate to be suited to small agricultural holdings. For such holdings a fresh mortgage by which the mortgagor recognises the mortgagee as the landlord and himself remains in cultivating occupancy of the land for a period and on terms approved by the Collector may be the means in some cases of liquidating the debt of the raiyat. The Collector's intervention will prevent the rack-renting to which the raiyat is at present subjected (as the land is usually sublet to him) and will give him a chance of rehabilitation In some cases fresh mortgage in the form of an ordinary usufructu-

[1] I. L. R., 9 Cal., 290.

ary may be suitable. The Collector should be empowered to secure the above objects on the application of either the raiyat or his creditor or of his own motion. If the holding must be sold, power should be retained to prevent its purchase by a non-agriculturist, whenever practicable.

I shall notice only one other point. The underlying principle of Section 40I is the same as that of the "convertible tenure-holder" clauses of the Tenancy Bill of 1884. Its object is to provide a remedy against the expropriation of the raiyat by the money-lender. The gist of the section is that if the transferee is not a cultivating raiyat or a person who has acquired land for the purpose of cultivating it by himself or by members of his family or by hired servants or with the aid of partners he will be treated as a tenure-holder for certain purposes. The scheme of the Bill is that transfers to those who are not cultivating raiyats or are not acquiring the land for the purpose of cultivation should be made difficult. The efficacy of Section 40 I as well as of the measure generally will depend on how far the class of persons, whom it is intended to exclude, will be actually reached. The difficulty in Bengal is that frequently money-lenders are also cultivators, and they will be in a position to claim that they have acquired the land for the purpose of cultivating it by themselves. The test should be whether or not the person earns his livelihood wholly or principally by agriculture and it would seem desirable that words to that effect should be added to Sections 40 D and 40 I. This addition will probably have the effect of excluding the objectionable type of money-lenders and that is all that should be aimed at.

It should be recognised that a measure like that proposed in the Draft Bill is after all only a palliative. A complete remedy for agrarian difficulties cannot be found until the problem of agricultural indebtedness is solved. For that other measures are necessary.

KRISHNAKALI MUKHERJEE.

THE EARLY HISTORY OF THE TEA INDUSTRY IN NORTH-EAST INDIA.

By Harold H. Mann, D.Sc.

During the period of my engagement as Scientific Officer to the Indian Tea Association (1900-07) I had unrivalled opportunities to collect materials concerning the establishment of the tea industry in north-east India, both by having access to old reports which were placed in my hands, more particularly by the courtesy of the Superintendent of the Assam Company, by conversation with people now no longer with us who remembered the early days of the industry, and by examining the files of daily newspapers and weekly and monthly periodicals which exist in Calcutta. This being the case, I collected together a large number of copies of some documents, and notes from others bearing on the subject, for I felt that as the tea industry is practically the only successful Indian industry in the establishment of which Government took any large part, a study of it would probably be very useful in these days when so much is being stated about industrial development. For ten years these materials and notes have remained with me unused. Their interest has, however, by no means diminished in the interval,—and I trust that the record of the pioneer labours, often against the strongest opposition and most disheartening circumstances, will be of some advantage and encouragement to other pioneers in connection with the agricultural and industrial development of India.

From its original introduction into use in Europe the supply of tea had been a Chinese monopoly, and the trade in it to England had been a monopoly of the East India Company. In the early part of the nineteenth century, on the renewal of its charter, the

East India Company lost its trading monopoly, and as the trade in tea was one of the most valuable parts of its activities, it became anxious to obtain a rival source of supply entirely under its own control. Moreover, especially in the thirties of the last century, Japan broke off all trading connection with the West, and suspicions were rife[1] that China would do likewise, and so at once cut off the source of supply of tea from England.

As a result of these political changes and suspicions, great anxiety arose for the production of tea in India, if such production were by any means possible. It was already known that the tea plant would thrive under very widely varying conditions. It had been naturalised in Brazil where it had grown magnificently, in St. Helena, in Java, in Prince of Wales' Island,—but the tea made in these places was very unsatisfactory. Of that made in Prince of Wales' Island (Penang) it was stated that it had "acquired the appalling property of a nauseating and slightly emetic drug." It was, furthermore, very much doubted whether tea grown in India would not be useless in the same way. "Everywhere," said a Calcutta writer in 1834[2] "it thrives, as far as mere vegetation is concerned. but nowhere except in China has any successful effort yet been made to render it a profitable product of industry. We have a suspicion that this arises from causes which will be found a bar to the profitable cultivation of the plant in India Admitting that localities for it may exist in our territories, approximating in climate to its native country, we should fear that, as the value of tea depends upon its aromatic flavour, differences of soil may produce changes as fatal as those which occur in tobacco and in the vine, and that the hyson and pekoe and twankay and souchong of India, will be very little like their high flavoured namesakes of the celestial empire............................"

In spite, however, of a somewhat general feeling at least of doubt as to the likelihood of the success of tea growing in India,

[1] *Cf.* Asiatic Journal, Vol. 29 (1839), p. 53, and many other references.
[2] *Calcutta Courier*, 7th February 1834.

there were sufficient believers in its possibility that in January, 1834, the Government of Lord W. Bentinck appointed a committee to consider the question of introducing a supply of plants from China, to decide the most suitable and likely place for growing them, and to make arrangements for bringing the seed, and making the experiment.[3]

In some respects this committee acted with more energy than most similar bodies. They issued a circular (March, 1834) asking all opinions which were likely to be of any value as to where tea was most likely to be successful, and they arranged at once that one of their members (Mr. G. J. Gordon)[4] should go to China and bring back plants and seed, and also cultivators from China who knew how the plants should be grown and how the tea should be prepared.

Both these actions of the "Tea Committee" have had results which have continued to this day. The circular was issued and Gordon went to China. The first resulted in the definite decision that the tea plant occurred in Assam: the second brought about the introduction of the first lot of China tea seed,—the curse of the India tea industry.

But the discovery of the tea plant of Assam was only a secondary result of the issue of the circular of March, 1834. Before this, replies were received from people in every corner of India who on the strength of false analogies of climate and soil, convinced the Tea Committee that the proper places in India for tea cultivation were in order of suitability (1) "On the lower hills and valleys of the Himalaya Range." (2) "On our Eastern Frontier." (3) "On the Neelgherries and other mountains in Central and Southern India." What was meant by the Eastern Frontier I do not know. It seems doubtful whether Assam was referred to. By the Himalayas, however, Darjeeling

[3] This Tea Committee consisted in the first instance of Mr. James Pattle, Mr. G. J. Gordon and Dr. Lumqua, a Chinese doctor who had long lived in Calcutta.

[4] At a salary of Rs 1,000 per month.

was certainly not meant, but rather Mussoorie, Dehra Dun and the neighbourhood. The committee, led largely by Dr. Wallich, the then Superintendent of the Calcutta Botanical Gardens, maintained the superiority of the Himalayas in this region for several years,—I think, in fact, until the committee was dissolved some years later.

But the circular had been received, among other people, by Captain Jenkins, then in charge of the Assam valley, and a man of great enthusiasm for the development of that newly conquered province, and one who knew its possible products better than almost anyone living. He lived at Gauhati, but he knew, as most of those who had had experience of Upper Assam knew, that tea was already existing in the country of the hill tribes (Singphos) at the north-east of the valley, and, not only this, but was used for making tea by the Burmese method.[1] This fact had been known at least since 1815. In that year it was spoken of by Colonel Latter, again in 1818 by Mr. Gardner, again in 1824 by Mr. Bruce who grew it in his garden at Sadiya a year or two later (in 1826). Time and again plants had been sent to Calcutta for identification,—by Mr. David Scott, Commissioner of Assam, by Mr. Bruce, and by others. But there seems to have been an extraordinary reluctance on the part of the botanical authorities in Calcutta to acknowledge the existence of tea in India. The matter could only be settled finally, of course, if flowers and seed were sent,—but it was always apparently the part of the botanists to doubt and deny, rather than to encourage the idea that tea was present in the country.

On the receipt of the Tea Committee's circular, however, Jenkins passed it on to a young officer who was stationed at Sadiya, named Lieutenant Charlton, who had also seen and drunk the so-called tea which was growing in the country of the Singphos and also near the Dibru river. He immediately sent to Calcutta (on 8th November, 1834) not merely the tea but also samples of the

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[1] Letpet Tea.

fruit and leaves of the so-called tea trees, and this enabled the plants to be identified with certainty as tea, identical with that of China.

In informing the Government of this fact the Tea Committee waxed enthusiastic and wrote as follows :—" It is with feelings of the highest possible satisfaction that we are enabled to announce to his Lordship in Council that the tea shrub is beyond all doubt indigenous in Upper Assam, being found there through an extent of country of one month's march within the Honourable Company's territories, from Sadiya and Beesa to the Chinese frontier province of Yunnan, where the shrub is cultivated for the sake of its leaf We have no hesitation in declaring this discovery......to be by far the most important and valuable that has ever been made in matters connected with the agricultural or commercial resources of this empire. We are perfectly confident that the tea plant which has been brought to light, will be found capable under proper management, of being cultivated with complete success for commercial purposes, and that consequently the object of our labours may be before long fully realised."[2]

The effect of this announcement on the policy of the " Tea Committee " and of Government was immediate. Mr. Gordon who had been sent to China to fetch seeds and tea makers was recalled, as his mission was now considered unnecessary, and a scientific expedition was sent to Assam to bring back authentic and full information as to the extent and character of the tea there found.

In accordance with this decision Gordon returned, but not before he had obtained and sent off several lots of tea seed from China. As it has often been suggested that he was fooled by the Chinese and put off with inferior seed, it may be well to give a contemporary account, evidently inspired by Gordon[3] himself, of what he did, and what seed he got. " The first parcel of the seed was despatched personally by Mr. Gordon, in very good condition, and having been procured from the Bohea hills, is supposed to have been collected from

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[2] Letter from the Tea Committee to the Government of India, 24th December, 1834.
[3] *Calcutta Courier*, September 14, 1835.

plants bearing only the good sorts of black tea. This seed on its arrival in Calcutta was distributed partly for cultivation in Assam, partly on the Himalaya hills. The second and third batches were both despatched from Canton during Mr. Gordon's absence, and from the channels through which they were procured are supposed to have been only the seeds of inferior kinds of tea. Both these parcels were sown in the Botanic Garden here; the last of them arrived out of season and in such a state as not to vegetate, but from the second batch about a lac of plants were procured, of which about 20,000 were sent up to Assam, as many more to the garden at Mussoorie. and a couple of thousands to Madras." There was evidently more than a reasonable suspicion that part at any rate of these first importations represented not the seed of the best of the Chinese tea plants, but any rubbish which (not even being inspected by the Tea Commissioner in China) could be palmed off on the unsuspecting Indian authorities. This was not the case always with later importations, but some of the first were certainly as doubtful material as could have been obtained.

The recalling of Mr. Gordon from China was a step about the advisability of which much controversy arose later. Wallich, the Superintendent of the Calcutta Botanical Gardens, whose influence was then paramount, held that if tea really occurred in Assam, then there was no need to import seed. He wrote[1] :—" The committee have maturely weighed the subject of the new discovery in Upper Assam in all its bearings. The genuine tea grows there, or an indigenous plant which may be cultivated to any extent. There is no ground for supposing that the various sorts of tea seeds imported from China will produce anything but the shrub in its natural state, retaining nothing of the variety whose name the seeds bear: it is therefore useless and unnecessary to import from China at a great expense and great risk what may be had, as it were on the spot, to any extent almost in a state of perfect freshness and strength for

[1] To Mr. Gordon, as Secretary of the Tea Committee on 3rd February 1835.

vegetating. Your continuance in China, so far as regards supplies of seed, is therefore useless and unnecessary." This policy, as we have since proved by experience, was correct: the reason given for it was as fallacious as could be,—and was one of the points which led to bitter controversies a little later between Wallich and Griffith, his colleague on the scientific deputation to Assam.

In the meantime the local progress had been considerable. Tea plants, originally supposed to be only found growing wild in the Singpho hills had been discovered in the Manipur hills by Major Grant, in the Tippera hills, and in a number of new localities in the Assam Valley. Further Lieutenant Charlton, who had supplied the samples which had finally determined that tea occurred in Assam, had been asked to experiment with the growth of the plant at Sadiya where he was stationed, with Mr. Bruce, who had been in Assam for a number of years on his own business and who had certainly grown the plant since 1826, as his assistant. This latter arrangement was not to continue long. In the disturbed state of the country, Charlton had to go out to subdue a rebellion, and in attacking a stockade he was wounded and had to leave the province.[2] Bruce took charge of the experiments, and from this time onward he becomes almost the principal figure in the local development of tea culture for a good many years.

The scientific deputation to Assam to which I have referred was appointed early in 1835 and consisted of Wallich, William Griffith,—one of the most distinguished botanists who ever worked in India,—and McClelland, a man of reputation, as a geologist They left Calcutta on 29th August, 1835, and went straight to Sadiya, arriving in January, 1836. This deputation was not a very happy party. It found the experiments in growing tea at Sadiya in a very crude state. There *had* been tea nurseries at Sadiya but they had been trodden down by cattle, and little could be seen. The country was so disturbed that Wallich got frightened and wished to return without seeing all the country. The others explored the

[2] *Englishman*, 1st September 1835.

country fairly thoroughly however, and the reports on what was found by Griffith[3] and McClelland[4] are among the most valuable documents we have as to the condition of indigenous tea in Assam in 1836.

The questions which they set themselves to answer were

(1) Is tea indigenous to Assam?

(2) Are the conditions such as to make it probable that a tea industry will succeed?

(3) What are the conditions in Assam under which it is most likely to grow successfully.

(4) Is there any necessity to import Chinese tea seed.

The first of these questions they left doubtful, and doubtful it has remained. They found the tea plants scattered all over the country to the South of the Brahmaputra in Upper Assam, while there were none to the north of the river. They always occurred, however, in the plains in groups, almost as if they had been planted. and only in the Singpho hills did they become apparently more a part of the ordinary vegetation of the country. These groups of tea trees in the jungle, however, were exceedingly common. The "Muttuck" country between the Dibru and Dehing rivers was full of them, and other places like Gabro Purbut at the foot of the Naga hills where tea had been found, were visited by Griffith and McClelland. But the country had been in a state of war for twenty-five years on and off and completely desolated. The people in the hills round the valley were known to know tea and to drink it. Hence it was quite possible that these were remnants of former tea gardens. In spite of this both Griffith and McClelland considered it probably indigenous.

In discussing the second point, Griffith went at great length into the similarity of Upper Assam to the tea tracts of China. He concluded finally: "(1) that there is a similarity of configuration

[3] Transaction of Agri-Horticultural Society of India, Vol. V, 1837-38.
[4] Transaction of Agri-Horticultural Society of India, Vol. IV, 1837.

between the valley of Assam and two of the best known tea provinces of China; (2) that there is a similarity between the climates of the two countries both in regard to temperature and humidity; (3) that there is a precise similarity between the stations of the tea plant in Upper Assam and its stations in those parts of the provinces of Kiangnan and Kiangsee that have been visited by Europeans; (4) that there is a similarity both in the associated and the general vegetation of both Assam and those parts of the Chinese tea provinces situated in or about the same latitude." This conclusion undoubtedly did a good deal to strengthen the confidence in the possibility of Assam as a commercial tea growing district, though I doubt whether any of these statements are very accurate.

As regards the conditions under which tea would best grow in Assam, McClelland (*loc. cit.*) had nothing to go on except the situation of the indigenous tea which he found. Of this, he said :—" It appears that the tea plant of Assam grows spontaneously under slightly distinct circumstances as follows: (1) in the level plain; (2) on embankments or mounds slightly raised above the plain. Cuju, Noadwar, and Tingrai are examples of the first, Nigroo and Gubrupurbut are examples of the second.[1] The first class of situations are distinguished from the general plain by a porous structure and the peculiar character of maintaining a dry surface under exposure to excessive moisture; the second by a structure less porous than the first. In both the plants are situated at the verge of inundations which prevail during the greater portion of the year on the adjoining lands. The important peculiarity of these sites is that thev are less secure from inundation by their elevation than by their structure. Indeed the lower sites are scarcely raised more than a yard above the adjoining flat plains, which are exposed to inundation not merely during falls of rain, but also from the overflowings of the great rivers." It is remarkable how clearly McClelland saw the need for thoroughly efficient drainage if tea is to flourish. It would

[1] The names of most of these sites will be at once recognised by those who know the Assam tea industry.

have been a good thing if everyone since then had seen it equally clearly.

As to whether it was necessary to import Chinese tea seed, there was, as we have already hinted, a violent difference of opinion between Wallich and Griffith. The former held that there was no need: the latter that Chinese seed is required. I have quoted Wallich, I will now quote Griffith. "The most thoroughly philosophical course," said Griffith, "is to cultivate *imprimis*, on the tracts alluded to, the best procurable plant taking at the same time every precaution towards reclaiming the Assam plant......The first step must be therefore the importation of seeds with a small proportion of the best plant from China: this is still more necessary from the total annihilation of those previously imported,—and the importation must continue to be, for some years, for obvious reasons, an annual one."

Griffith's position was thoroughly logical. A wild plant is not likely to give as good produce as one which has been cultivated for many generations. But the result of its adoption has been disastrous. As a result of it Gordon was sent back to China, for many years China tea seed was brought over regularly, and every thing was done to plant it instead of the "wild" indigenous tea of Assam. Wallich was illogical, but he was right; Griffith was logical, but the result of his recommendation was disastrous. It shows how dangerous it is in such matters to reason by analogy.

The general result of the visit of the scientific deputation to Assam was to commit the Government to go ahead in a definite effort to introduce tea cultivation in Assam. Previously the work had been very half-hearted. A nursery in the compounds of the bungalows of Charlton and Bruce at Sadiya or in a small plantation at Chykwa,—the cutting down of the trees in a few of the groups of tea plants in the jungle,—the importation of a few Chinese tea makers, the whole under the general supervision of Bruce,—this was all that had been done, and it had been done very badly. As regards the nursery at Chykwa, Griffith reported out of 20,000 plants put out,

in August, 1835, not more than 500 remained alive and those "in the last stage of decline. The ground was literally matted down with low tenacious weeds, and it is a fact that on our arrival at the nursery not a tea plant could be seen owing to the uniform green colour of the surface." As regards the tea colonies in the jungle, he said that Tingri, where operations were commenced, looked unhealthy in 1836. "Great parts exhibited considerable confusion: almost all the tea plants had been cut down: the underwood was cleared away, and all the forest trees either felled or in process of being so, the *débris* being burnt on the spot among the still living bases of the tea plants!"

From this time onward, however, the energy put into the matter was very largely increased. Bruce, as Superintendent of Tea Culture, put a large amount of energy into the work of clearing the tea colonies in the jungle, allowing them to grow, and making tea from them. The following note on his work published in 1839[1] seems to give but a fair account of all that we owe to him.

"Mr. Bruce, a gentleman who by long residence in the province had become habituated to the climate and well acquainted with the country and inhabitants, was appointed Superintendent of Tea Culture. His attention has previously been given to other pursuits, and he does not seem to have possessed any knowledge of botany or horticulture, or indeed any special qualifications for the post, but his intelligence and activity supplied every deficiency, and enabled him to render very valuable service. He discovered that the tea plant, instead of being confined to a few isolated spots, was over a great extent of country[2] and though his researches were at first viewed with great jealousy by the native chiefs, he not only succeeded in removing their prejudices but persuaded them to contribute their hearty assistance to his labours."

I do not pretend that Bruce ever discovered the way to grow and make tea so as to be really profitable. As we shall see, nobody

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[1] Asiatic Journal, Vol. 29 (1839) pp. 53-61.

[2] He published a map of these in 1838, which shows how widely he must have travelled in what then was almost pathless jungle.

did this really until 1852,—but he was an admirable pioneer, found out the habits of the tea plant, got over many of the initial difficulties, made drinkable tea, and to him almost alone is due the bringing of the cultivation and manufacture to such a point that a commercial company was ready to take it up.

The first tea, good enough to send down to Calcutta, made in Assam, was produced in 1836. Five boxes were made of tea prepared from leaves gathered out of season, dressed according to the process used for black tea, and with a very imperfect apparatus.[3] It was approved in Calcutta. The then Viceroy (Lord Auckland) drank it and pronounced it of good quality, and it was considered by those interested that the question might be regarded as settled that tea could be made in Upper Assam.[4] The following year still better tea was made, and was pronounced to be a mercantile commodity.[5] The difficulty of packing was beginning now to be felt, and remained a serious problem for several years, until tea lead was made on the spot,—a not very easy operation. In 1838 the first tea was sent to England. I will speak of its reception in London a little further on.

The position of the cultivation and manufacture at the stage we have now reached is well described in a small but very interesting pamphlet published by Bruce in 1838. This[6] gives such an excellent account of what tea culture and manufacture meant to Bruce in those early days that I must quote a few passages.

"The tea plants of Assam have been found to grow, and to thrive best, near small rivers and pools of water, and in those places where after heavy falls of rain, large quantities of water have accumulated, and in their struggle to get free, have cut out themselves numerous small channels. On the top of this land you must fancy a thick wood of all sorts and sizes of trees and amongst these

[3] *Calcutta Courier* 21st November 1836.
[4] *Calcutta Courier* 21st December 1836.
[5] *Daily News*, Calcutta, 2nd March 1838.
[6] Entitled "An Account of the Manufacture of the Black Tea as now practised at Suddeya in Upper Assam, by the Chinamen sent thither for that purpose, with some observations on the culture of the plant in China, and its growth in Assam by C. A. Bruce, Superintendent of Tea Culture."

the tea tree, struggling for existence: the ground here and there having a natural ditch cut by the rain water, which forms so many small islands, ... the land being never wholly inundated in the rain, though nearly so. This kind of land is called Coorkah Mutty.[7] I have never met with the tea plants growing in the sun, but invariably under shade, in thick woods, or what we call tree jungle and only there and in no other jungle whatever. . . . . The largest tea tree I ever met with was twenty-nine cubits high,[8] and four spans round: very few I should say attain that size."

He goes on to say that he had failed always in planting tea when put in the sun: on the other hand, his transplants did very well in the shade. He was astonished at the hardiness of the tea plants and quotes the following experience. In one case the Assamese villagers "took the tea plant to be so much jungle, and therefore nearly cut all of it down close to the ground, and set fire to the whole, and then planted paddy or rice on the spot. The crop of paddy had just been cut and brought in when we saw the plants, the shoots were coming up from the roots and old stumps thick and numerous. . . . I afterwards converted this piece of ground into a tea garden on account of the Government, and now it is one of the finest I have." Bruce says he succeeded in getting tea plants to grow from cuttings, provided they were in the shade. If so, he must have worked very carefully for it is decidedly not easy to do so. In regard to plucking of tea leaf, Bruce does not seem to have attempted to go beyond what was at that time falsely understood to be the Chinese method,—that is to say to pluck the whole of the young shoots as soon as they had four leaves on them, do the same when a second lot of leaves grew, and take a third similar crop,—if it grew after such terrible treatment.

The method of making black tea adopted by Bruce's Chinamen is interesting to those who know the process as carried on at present. Withering of the leaf was always done by preference in the sun and

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[7] Nowadays still called *Korkani* land.

[8] Say 43 to 44 feet,

the leaves were taken down and clapped between the hands several times during the process. The preparation for rolling also included a short heating in iron pans over a straw or bamboo fire. The rolling was done, of course, by hand, very much in the manner one sometimes still sees used at the very beginning of the tea season. No definite fermentation process was included and after rolling the tea was dried on sieves over charcoal. The drying was done in several stages, and the intermediate times during which the tea got cool gave the chance for some fermentation to go on.

Such were the conditions of production and of manufacture during the succeeding two or three years. New tea colonies were found in the jungle and were opened and extended by local Assamese labour almost entirely in the so-called Muttuck country, and tea was made, in gradually increasing quantity by or under the supervision of a number of Chinese who had been introduced for the purpose. The whole development was assisted by the fact that the British Government took over in the latter part of 1838 the direct administration of the territory of Poorunder Sing, containing the greater part of what is now the Sibsagar district of the Assam valley.

During 1837 nothing really more than samples of tea were made. In 1838, however, enough was produced for a number of boxes to be despatched to England, where their arrival was awaited with great interest. On 6th May 1838, Captain Jenkins,[1] the Commissioner of the Assam valley announced their despatch. These reached England in the latter part of the year and were brought to auction on 10th January 1839. There were only eight chests and each chest was sold separately. The following contemporary account of the sale will have considerable interest.

" The first importation of tea from the British territories in Assam, consisting of eight chests, containing about 350 lbs., was put up by the East India Company to public sale in the commercial sale rooms, Mincing Lane, on the 10th January 1839 and excited much

[1] Letter to Lord Bentinck from Gauhati.

curiosity. The lots were eight, three of Assam souchong, and five of Assam pekoe. On offering the first lot (souchong) Mr. Thompson, the sale-broker, announced that each lot would be sold, without the least reservation, to the highest bidder. The first bid was 5*s*. per lb., a second bid was made of 10*s*. per lb. After much competition it was knocked down for 21*s*. per lb. the purchaser being Captain Pidding. The second lot of souchong was bought for the same person for 20*s*. per lb. The third and last lot of souchong sold for 16*s*. per lb., Captain Pidding being the buyer. The first lot of Assam pekoe sold after much competition for 24*s*. per lb., every broker appearing to bid for it: it was bought for Captain Pidding. The second, third, and fourth lots of Assam pekoe fetched the respective prices of 25*s*., 27*s*. 6*d*. and 28*s*. 6*d*. per lb., and were also purchased for Captain Pidding. For the last lot (pekoe) a most exciting competition took place,—there were nearly sixty bids made for it. It was at last knocked down at the extraordinary price of 34*s*. per lb., Captain Pidding was also the purchaser of this lot and has therefore become the sole proprietor of the first importation of Assam tea. This gentleman, we understand, has been induced to give this enormous price for an article that may be produced at 1*s*. per lb. by the public-spirited motive of securing a fair trial to this valuable product of British Assam.[2]

As suggested in the above extract the prices given were purely for the sake of advertisement. The tea was not good but it was a curiosity, and its arrival was followed in the latter part of 1839 by another lot, this time of ninety-five packages eighty-five of which were sold on 17th March, 1840, by auction as before. A very complete account of this consignment was given by the East India Company to the Indian authorities with careful criticisms by nearly all the leading London tea brokers.

The tea was evidently much better than the last, and was valued from 2*s*. 11*d*. to 3*s*. 3*d*. per lb. It still fetched, however.

[2] Asiatic Journal, 1839.

a fancy price nearly all going between 8*s*. and 11*s*. per lb. except what was called *toychong*, evidently a very coarse material, which fetched between 4*s*. and 5*s*. per lb. With regard to them Messrs. Twinings and Co. of London[1] well summarised the general opinion by saying, " Upon the whole we think that the recent specimens are very favourable to the hope and expectation that Assam is capable of producing an article well suited to this market, and although at present the indications are chiefly in reference to teas adapted by their strong and useful flavour to general purposes, there seems no reason to doubt but that increased experience in the culture and manufacture of tea in Assam may eventually approximate a portion of its produce to the finer descriptions which China has hitherto furnished."

Thus six years after the tea committee was originally formed and experiments commenced, we have really for the first time a reasonable quantity of Indian tea put on the market. So far the Government had borne the whole cost of the experiment, and had every reason to congratulate itself on the progress made. It had been proved that tea existed in Assam, that it would grow, that the leaf could be manufactured and that the manufactured tea was a marketable commodity comparable with that obtained from China. It now remained to convert a Government experiment into a real commercial venture,—to take it out of the hands of the experimenters and place it in those of business men, who would have to make it pay. Between the present stage and that final one when money could be made from tea culture there was still a long way to go. Many disappointments had to be faced and many losses made, and the preliminary steps only were soon found to have been completed. Twelve years more, in fact, had to pass before tea culture could be considered a commercial success. The story of those twelve years will form the subject of a second article.

[1] Letter dated 12th February 1840.

A MADRAS CO-OPERATIVE STORE.

The Triplicane Urban Co-Operative Society claims to be the premier society on the Rochdale plan in the Madras Presidency, and even in India. Whether the latter claim is justified I do not know. The former is so far valid that hopes for an extension of co-operation on British lines in South India must for some time to come rest mainly upon the fortunes of this pioneer enterprise. It is unfortunate that even British-born members of the I. C. S., while they frequently fully realise the merits and potentialities of various forms of co-operation developed in Germany, Denmark, Holland, Belgium and Ireland, are almost without exception, very ignorant of the far greater, and, I venture to say, even nobler co-operative movement that has grown up among the manual workers of their own country. This is some handicap in his search for information to the enquirer who wishes to follow the fortunes of co-operative stores in India; and, what is much more serious, it is a handicap to the societies themselves. A study of the history of the "T. U. C. S." and of the causes of its successes and failures is therefore of practical value.

Madras is a collection of villages, more or less hypertrophied by the continual growth of the trade of the port and of the administrative machinery of Government. Beside the open sea beach is Fort St. George, with the congested area of George Town to the north of it. Along the sea front there is a series of fishing villages; north, south, and east a number of agricultural villages of which the paddy field, cocoanut topes, pastures and tanks partly

remain, and partly are converted into the compounds of bungalows. Immediately to the south of the Fort is the open space of the "Island" and the two branches of the River Cooum which surround it; beyond the Cooum is Government House with its park, and a number of Government offices and colleges, and the village, now in population a considerable town, of Triplicane. Thus situated, Triplicane has naturally an exceptionally large proportion of Brahmins among its inhabitants, many of them being Government servants and many on the staffs of colleges. The non-Brahmin population is largely made up also of peons and others in Government employment, besides traders and fishermen.

The membership of the Triplicane Society is mainly Brahmin, and in its origin it is specially connected with the Presidency College. In the early part of 1903 a group of young men formed themselves into a circle for the purpose of studying the question of Preferential Tariffs. They held their first meetings on the premises of the Triplicane Literary Society, afterwards they met in one another's houses. The class died away during the year, but in January 1904 the members were reassembled by Mr. V. S. Srinivasa Sastriar to meet Mr. Ambika Charan Ukil, Secretary of the Co-Operative Union, of Calcutta. Mr. Ukil invited those present to become members of the Calcutta union; but it was decided instead to attempt to form an independent local society. In the same month a provisional Secretary and Committee were elected, and it was determined to start a Co-Operative Store as soon as a capital of Rs. 1,000 was collected. Propaganda lectures did not lead to any great result in increasing the number of adherents; but so far from disheartening the pioneers this spurred them on to action. On 9th April 1904, the Society, numbering 14 members with a capital of Rs. 310, having engaged a manager and salesman, each on Rs. 8 per month, and having secured premises and borrowed a pair of scales and a set of weights, opened the "Triplicane Co-Operative Stores" at 7-30 A.M. and the sales for that day exceeded Rs. 90. 9th April has since been

"Co-Operators' Day." Four years later Mr. S. Venkatarama Aiyar described the early experiences as follows :—"Our number increased, but only very slowly. The first few months of our activity were discouraging in the extreme. I well remember a gloomy evening when we counted up the day's sales at only 8 annas 4 pies, and Mr. Hanumanta Rao stirred up the despondent manager by reciting 'Good times are coming, boys.' We had to give up all thought of educational and intellectual activity and to devote all our attention to the practical management of the store in all its infinite details. Some of us spent all our available leisure at the Stores, and occasionally even acted as manager and salesman, when those functionaries were away to make purchases. And some of us carried our ideas of economy so far as to preserve all packing paper and twine and return them periodically to the Stores to save it so much expenditure."

Simultaneously with the birth of the T. U. C. S. the Co-Operative Credit Societies Act was passed, becoming law on 25th March, 1904. The idea was mooted among the members that their society might come under the act, and a deputation visited the Registrar to confer with him on the subject. The final result was the registration of the society in September, 1905, and the addition of features in its constitution that had not originally been contemplated.

Since September, 1905, the Triplicane Society has had a triple function. Its original and most important duty is to maintain Co-Operative Stores on the Rochdale plan, selling articles in common household demand, of sound quality, free from adulteration, for cash only, and dividing the profits among the members in proportion to their purchases. Its second function is to maintain a Co-Operative Credit Bank, receiving deposits from members at rates of interest not exceeding $6\frac{1}{4}$ per cent. for fixed deposits and $3\frac{1}{8}$ per cent. for current deposits, and making loans to members at $6\frac{1}{4}$ or 7-13/16 per cent. (one pie or $1\frac{1}{4}$ pies per rupee per month). Its third function is to manage Chit-funds.

I do not know whether "Chit-funds" or "Kuris" or "Nidhis," as they are variously termed in Southern India, are known in Bengal. A Chit-fund is a simple form of combined savings and credit bank. The members meet monthly and each pays each month a definite sum (in the T. U. C. S. Chit-funds the amount ranges from 8 annas to Rs. 100) into the pool. Each member in turn draws the pool, and gives security that he will continue to pay his monthly contributions till all have had their turn. Of course all desire to get their turn early, and the selection at each meeting of the member to draw the pool may be made by lot, or by auction. In the latter case members offer to accept the pool less a certain discount, and the one who offers the highest discount gets it, the sum realised by such discounts being divided among all the members. Or, again, some combination of the systems may be adopted, by a limitation of the discount that may be offered, and casting lots among those who offer the maximum discount. In the T. U. C. S. chits the discounts must be not less than 3 per cent. and not more than 6 per cent.

On the credit side of the work of the society there is nothing of importance to note, except that the Banking Department dissipates a certain amount of capital which is gathered by the Stores, the loans slightly exceeding the total of fixed, current and recurring deposits. Thus we have at certain dates :—

Date.	Deposits.	Loans outstanding
	Rs.	Rs.
30th June 1915 ...	... 26,014	48,147
31st December 1915	... 25,672	42,933
30th June 1916 ...	... 23,880	32,058

There are, moreover, investments of Rs. 50,000 in Central Co-Operative Banks. It is doubtful whether much more profitable and socially serviceable use might not be found for these funds in developing the main work of the society.

Far more important and instructive is the record of the Stores. The broad outline can be shown in tabular form :—

Date.		Members.	Share Capital.	Reserve Fund.	Common Good Fund.	Sales for the previous
			Rs.	Rs.	Rs.	Rs.
9th April 1904	...	14	310	......	......	......
1st „ 1905	...	181	1,160	256	190	20 636 year
1st „ 1906	...	408	3,153	1,045	800	84,826 „
30th June 1907	...	637	4,945	2,554	2,007	120,527 9 months
31st December 1910	...	1,539	14,873	10,652	8,944	235,904 ½ year.
31st „ 1911	...	1,863	20,298	15,676	11,876	262,893 „
31st „ 1912	...	2,204	26,948	21,097	15,266	314,757 „
31st „ 1913	...	2,570	32,135	23,930	17,313	323,962 „
30th June 1914	...	2,739	37,343	24,026	14,904	316,681 „
31st December 1914	...	2,786	37,099	24,103	14,190	321,452 „
30th June 1915	...	2,795	37,274	26,694	15,510	241,552 „
31st December 1915	...	2,808	39,502	26,725	14,760	264,554 „
30th June 1916	...	2,806	41,161	29,244	15,814	240,032 „

It will be seen that the growth of the society was vigorous in all respects up to the end of 1913, when the membership reached 2,570, and the sales were at the rate of 6½ lakhs per annum. Since then the membership has still further increased, but now seems to be stationary, the sales have fallen to about 5 lakhs per annum, and only the share capital and the reserve fund continue to grow without ceasing. The sales are the best test of the vitality of a co-operative society, when allowance is made for fluctuations of average prices; and the falling off of sales shown above, if not alarming, is at least disquieting. Unfortunately this is not the only circumstance which has that effect. There has recently been a regrettable failure to submit the reports of each half year promptly to the members. No accounts have yet been presented for the second half year of 1916. Those of the previous half year were not submitted till 10 months after its conclusion. Those for the half year before that were 16 months late, while those for the half year ending December, 1914, were not presented to the members till

29th October 1916! One's imagination fails to picture the situation that would arise in a Scotch or English " Co : op " if the management dared to keep the members waiting 22 months before presenting the accounts and declaring the dividend. It is not surprising that when that long delayed meeting did take place, one motion on the agenda was that "the present Directorate shall dissolve and necessary arrangements made immediately for the election of a fresh set of Directors."

The constitution of the society is somewhat complicated. Each member on election becomes a member of a particular branch. Each branch elects a Panchayat of five members, one representative to the Advisory Board, and another representative who, with the members of the Advisory Board, serves on the Electoral Board. The business of the Electoral Board is to elect the Directors who manage the affairs of the Society. Whether there is any superiority in such a complicated system of indirect election over the method of simple direct election of a managing committee adopted in Great Britain, is doubtful.

The membership still shows a majority of Brahmins, but there are a good many non-Brahmins, Mahomedans and Christians. There are also a number of corporate bodies among the members, as hostels, clubs and temples, and upwards of 60 women.

The services which the Society renders; directly to its own members, and indirectly to the social advance of the people of South India, are

(1) It sets an example of better methods of trading. Prices are fixed, and there is no scope for chaffering and the waste of time and effort that that involves.

(2) A child may be sent to make purchases, and will receive full weight and the correct quality of goods just as an adult.

(3) Sales are for cash; and the dividend on purchases, so far as it goes (up to now it has been minute) is capable of becoming a means of rescuing poorer members from debt. The society assists, at present only in a small degree, but ultimately perhaps effectively,

the people affected to make savings rather than borrowings the basis of their domestic finance.

(4) It forms the most hopeful form of organisation against adulteration in articles of common consumption. Gingely (Til or Sesamum) oil has been dealt with effectively, and a perfectly pure oil is sold. Milk and ghee are more difficult problems, but not insuperable.

(5) Valuable training in the management of business and public affairs is given.

(6) The good or evil fortune of the Triplicane Society encourages or discourages the members of the younger and smaller societies in other urban areas (*e.g.*, Coimbatore, Dindigul, Madura, Palamcottah, Trivandrum).

(7) The development of Co-operative Stores in the cities re-acts very favourably upon the growth of agricultural co-operation along many possible lines of development.

In a word the economic advantages of a vigorous growth of co-operation in the direction in which the Triplicane Society is an Indian pioneer, are very great in themselves, but small compared with the moral and intellectual advantages. As the Society boasts among its members many of the most distinguished Indians in Madras, it should be able to command the energy and ability necessary to overcome the difficulties that hamper it.

Many of those difficulties are of a nature that can readily be guessed. Just as the hot, damp climate of Madras breeds pests that prey upon plants, and microbes that prey upon men, so its social and business atmosphere is favourable to the development of faction in popular assemblies, of intrigue among elected representatives, of illicit commissions among business people, and of suspicion among the rank and file. It is obvious that it is desirable that a Co-operative Society should have as its chief salaried servant a man of great ability scorning all illicit profits, thoroughly trusted by all the members; that he shou'd continue to serve the society for

a fairly long term of years, and that when he retires his place should be taken by some younger man whom he has carefully trained with that view. It is desirable also that there should be perfect good feeling between all sections, the shareholders, the employees, the various boards and committees. It is not easy in any country to secure all these desiderata, and, I fear, it is more difficult to secure them in South India, even among a community mainly comprised of Brahmins, than in Britain among a community of artisans, labourers, factory operatives or miners. In the Triplicane Society the chief salaried officer is the Secretary, and changes of Secretary have been regrettably frequent. These changes are, undoubtedly, to be associated with the somewhat fluctuating fortunes of the Society after it had successfully passed through the most dangerous period of infancy.

Such difficulties as are indicated above are in the very nature of things; and the greater they are, the greater is the need of Co-operative Societies to train people to combat them. But there is also a quite unnecessary difficulty which has been imposed upon the Co-operative Societies of Madras by the general ignorance in Government circles and among the members, of the results of British experience in Co-operation. I refer to the existence of a rule prohibiting the Society from selling to non-members.

The views of the department on this subject were clearly expressed in the following passage in an address given by a distinguished member of the Government to a Co-operative Conference recently held in Madras :—

"The application of the co-operative principle to the distribution of ordinary articles of consumption is one of the most familiar forms of co-operative effort. In England it was one of the earliest; the Rochdale Store dating from 1844. Since then many Co-operative Stores have come into existence and have flourished exceedingly. There is, however, an undoubted tendency for such stores to abandon their co-operative character and to become merely large shops to the advantages of which any one can secure

admission under the thin veil of an annual subscription. As a Co-operative Store always ought to be able to reduce the price of its goods to its members, owing to the elimination of the shop-keeper's profit, everyone wants to buy the Stores' wares, and the temptation to extend sales by admitting non-members becomes too great to be resisted. I do not know whether this tendency has made its appearance in Madras, but it is sure, sooner or later, to exist, and then the Co-operative Supply Association becomes merely a large shop with the original co-operators degenerated into shareholders. Except, therefore, in quite small areas, or where membership can be strictly limited, as in the case of students of a particular college, or the employees of a particular firm or company, this does not seem to be one of the best directions for co-operative effort."

The above-mentioned tendency did, of course, display itself in the Civil Service Supply Association, the history of which is pretty fairly told in this extract. The description would apply also to the Army and Navy Co-operative Stores, if these in their origin had been co-operative in fact as well as in name. But it does not apply to the seventeen hundred odd large and small societies of the British Isles on the Rochdale plan. And, it is curious to note, the Civil Service Supply Association which underwent the degeneration described, *had* a rule prohibiting sales to non-members, whereas the vast number of societies which have remained truly co-operative, have always sold freely to every stranger who enters their shops. Yet they have defied this tendency to split into two separate bodies, one of shareholders and the other of purchasers, and again curiously, as year after year they sell freely to non-members, the proportion these sales bear to the total grows steadily smaller. The reason is that they have met the danger in the right way. Instead of refusing to allow non-members to become purchasers, they have invited all who will to become purchasers, and all purchasers who will to become members. The usual method is that every non-member receives half dividend on his purchases; and the initial deposit towards the taking up a share is so small that a

non-member's purchases must be minute indeed for his half dividend to be too small to make him a full member at the end of the half year or quarter if he allows it to remain on deposit.

Just as the department, through a misunderstanding of co-operative history, has been led astray on this question, so have the Madras co-operators themselves, through reasoning on the analogy of the most familiar form of co-operation in India, the Co-operative Credit Bank. It is obvious that these banks must in their ordinary business lend only to members; also that they must be careful whom they admit to membership, and that they should discriminate according to character. A man may make a bad or foolish use of a loan, and you should know something about him before you lend to him. But no such enquiry into character is necessary when it is a question of selling him provisions for household consumption. Known bad characters should, of course, be excluded, but otherwise no special selection is required. All ordinarily respectable and honest folk should be welcomed. This non-exclusion is the special glory of the British societies on the Rochdale plan. A few men have, in each case, toiled to establish the Society, have given their leisure freely, have bought their goods at the Stores at a sacrifice, and when they have built up a strong organisation, earning large profits, they have allowed every decent citizen who chose to share its advantages on precisely equal terms with themselves. Exactly the same ideal is held by the Triplicane Society, but the rule against selling to non-members, combined with the fact that members must hold shares to the value of five rupees, very seriously stands in the way of realising the co-operative ideal in practice. It is true that there are arrangements to enable the shares to be taken by instalments, but this does not, in practice, make any great difference.

On the commercial aspect there is, of course, only one side to the question. The last report of the T. U. C. S. shows 86 employees, handling a trade of Rs. 2,40,000 in the half year,—at the rate, that is, of Rs. 16 per day per employee. Beyond a doubt the existing

premises could easily do three times that trade, and the necessary increase in the number of employees would be well under 50 per cent. Better wages could be given, the more active life would be beneficial to the employees, and much higher profits would be earned. Moreover continual expansion is the very breath of life to a Society. Of the original body of enthusiasts some die, some remove to other places, some become too much engrossed in other work. As long as the Society is growing, there is a continual influx of new members, of whom some have leisure and some enthusiasm; and the feeling of belonging to growing organisation gives encouragement, interest and *esprit de corps* to the whole body.

It is, I think, time now that the Registrars of Co-operative Societies in the different provinces should devote some study to the Stores movement, and draw up model rules based on British experience, with suitable modifications. With regard to selling to non-members I would suggest the following model rule :—

" Except as provided in Rule No. 00* sales shall be made only to members and prospective members.

" All non-members who record their names and addresses in books kept for that purpose in all the branches shall be deemed prospective members.

" All prospective members shall be invited to apply for full membership.

" In the event of a prospective member becoming a full member the dividend on his previous purchases shall be credited to his share account. In the event of his declining membership, or otherwise failing to become a member within twelve months of the declaration of the dividend, the amount to his credit shall be transferred to the Reserve Fund."

I do not think that the British rule of half dividend to non-members would work in India, the rate of dividend being too small. The same result has to be reached by another method.

* The rule about dealings with other Societies.

The T. U. C. S. dividend on sales is, indeed, deplorably low, varying usually between one and three pies in the rupee. Too high a dividend is bad; but the ideal "divi" would be somewhere between one and two annas in the rupee. The reasons why the dividend is low are three, (1) insufficient volume of trade to employ the establishment and staff to the best advantage, (2) the fact that some goods are sold cheaper than in the bazaar, (3) the rules with regard to the disposal of profit. The first of these is discussed above, the second can be easily altered by the management, the third is worthy of some consideration.

The rules require that one quarter of the profits shall go to the Reserve Fund; then interest on capital is deducted, then the remaining profits go, one-third to the Common Good Fund, and two-thirds to the members in proportion to their purchases. It is obvious that in these rules we see the dominating influence of the Co-operative Credit Bank. The result is that only about 40 per cent. of the net profits are available as dividend on purchases. Thus, if the net profit be Rs. 5,000 it would be distributed as follows:—

	Rs.
Reserve Fund, one quarter	1,250
Interest on Share Capital (probably about)	750
Common Good Fund	1,000
Dividend on Purchases	2,000
Total ...	5,000

Now this is a bad distribution. In the first place, as the interest on the Share Capital is fixed, and fixed at a minimum rate (in the T. U. C. S. limited to 3¾ per cent. per annum), it is really of the nature of interest on debentures, and should be the first charge on the net profits, standing before Reserve.

Secondly, the amount assigned to the Reserve Fund is unnecessarily high, and it should rather be proportioned to what is distributed to the shareholders than to the total profits. As the Reserve Fund is continually growing by compound interest quite apart from new assignments, if one-third of the amount paid in

interest were allotted to the Reserve Fund by rule, this would be sufficient.

Thirdly, the rule that the Common Good Fund, *i.e.*, the members, collectively, shall receive half as much out of the profits as the members do as individuals, is very beautiful in theory, and has advantages in practice. But, though I have not space to set out my reasons, I feel sure that a less idealistic rule would work better. The British custom of 2½ per cent. (or less) of the profits to an "Education Fund" errs in the opposite direction. There should be a happy mean. Rules should encourage public spirit without endeavouring to compel a degree of virtue altogether out of proportion to what the members can voluntarily rise to.

A better distribution of a profit of Rs. 5,000 would be :—

	Rs.
Interest on Share Capital	750
Reserve Fund (one-third of the interest)	250
Common Good Fund (one-tenth of the profits) ...	500
Dividend on Purchases	3,500
Total ...	5,000

As a consequence the dividend on purchases would increase from 40 to 70 per cent. of the total profits. The higher dividend would stimulate sales, and this again would increase the percentage of profit. It would also facilitate the use of the Stores and its "divi" for the proportion of thrift.

During the present crisis the British Co-operative Societies are selling at lower rates, as a rule, than the private shops, and are performing an enormous national service by checking, as far as they can, the rise in the price of the necessities of life. But it is well known that in ordinary circumstances their prices are, as a rule, slightly higher. It is not so well recognised that by maintaining their prices rather above than below the general level they do an enormous economic and moral service to the bulk of their members. For the ordinary member of the working class to save a few pence per week demands an effort of will that is out of proportion to the benefit. But to shop at the "Coop" is easy, and a tiny addition

to the weekly household expenses means only a glass or two less of beer per week. Then when the quarterly or half-yearly dividend is declared there is a sum to the member's credit which is used either for recurring expenses, as clothes, or as a nest egg to attract further savings. Thousands of manual workers use such savings to buy their houses and live rent free.

It is obvious that great benefits would result in India from a similar use of the Co-operative Stores. It, however, can hardly be expected unless a larger proportion than at present of the profits are allowed to be distributed as dividend on purchases. British co-operators are often reproached, both by outsiders and by their own leaders, with being mere "divi-hunters." But to pass from the ranks of the thriftless hand-to-mouth ranks into those of the divi-hunting co-operators is a great moral ascent, and almost a necessary preliminary to the further rise into the class of the true, public spirited, co-operators, who are the salt of the State.

DISTRIBUTIVE CO-OPERATIVE SOCIETIES IN THE MADRAS PRESIDENCY.

Reg. No.	NAME.	Members.	Capital	Reserve.	Sals. (year)
			Rs	Rs	Rs.
15	Triplicans Urban Co operative Society	2,812	108,448	28,282	504,587
26	Coimbatore Urban Bank and Stores...	386	12,891	1,349	39,386
28	Madura Urban Co-operative Society and Stores	744	112,172	11,177	49,250
58	Kurnool Urban Co-operative Stores	55	1,221	520	5,211
63	Madanapalle Urban Co-operative Society and Stores	150	4,425	498	20,638
1037	Pudupalaiyam Urban Co-operative Distributive Society ...	80	995	248	8,593
1079	Palamcottah Urban Co-operative Distributive Society	160	1,066	...	7,709
1107	Tiruvalur Sri Tyagaraja Co-operative Distributive Society . ..	57	455	25	5,337
1405	Trichinopoly Co-operative Stores	126	4 016	......	17,201
1411	Nellore Co-operative Stores ...	145	2 899	219	23,020
1485	Mayaveram Co-operative Distributive Society	157	4,176	......	11,265
1738	Gudivadu Co-operative Stores ...	39	725	.. ...	1,529
	TOTAL	4,911	253,489	42 313	694,026

There is also a Society at Trivandrum in the State of Travancore.

GILBERT SLATER.

AN ESTIMATE OF INDIA'S NATIONAL INCOME.

My object in this article is to frame an estimate of India's national income with such materials as are available for the purpose; and to compare the amount of that income per head of the population in 1911 with that in 1891 (both years of favourable seasons and good harvests throughout India). For comparative purposes the results obtained are, I consider, of undoubted value; more especially as a corrective of the view, so widely prevalent among Indian publicists, that India as a nation is growing poorer year by year with an ever increasing pressure of population on the soil. As an absolute measure of India's resources I do not claim for the figures that they are more than a rough approximation to the truth. At the same time, taking them as they stand, they do enable us to see many things in their true perspective which, without their help, it is difficult to apprehend properly.

One of the earliest estimates of India's national income was that made by Mr. Dadabhai Naoroji in 1871. He estimated at 260 crores of rupees the aggregate value of India's agricultural produce (less a suitable allowance for seed). This he divided by the total population—*viz.*, 170½ millions. Obviously, however, only a proportion of the population (which, adopting that for 1891, we may put at 67 per cent.) is directly supported by agriculture; giving an average per head for the agricultural population, on the basis of Mr. Naoroji's figures, of Rs. 23; or an average for the whole population of probably from Rs. 24 to 25. Next, we have the estimate of Rs. 27 per head given by Lord Cromer in 1881. This was a little too high, there is reason to think. My own estimate for 1891 is Rs. 28, as compared with an average for 1911 *(on the basis*

of the price-level for 1891) of Rs. 31. The well-known estimate, given by Lord Curzon in his budget speech in 1901, is Rs. 30; but I have no means of judging how far this figure requires correction on account of variation in the purchasing-power of money, and the same remark applies to the earlier estimates.

Here I would like to suggest, as Mr. Naoroji did 40 years ago, how desirable it is that there should be published from time to time, with official authority, a reliable estimate of India's *per capita* income. Such a figure, however, would only carry proper weight if full details were published of the methods by which it was arrived at; and amplification and improvement of much of the statistical material is a necessary preliminary to this.

A nation's annual income is derived from two sources, *viz.*, (*a*) capitalised wealth, in which we include land, buildings, railways, canals, industrial plant, etc.; and (*b*) labour, including labour combined in the work of production with land and capital, and labour that renders income independently of these like the services of the professional man and the domestic servant. With regard to the first source of income, however, we must remember that only a *part* is available for ordinary consumption or conversion into new forms of capitalised wealth; another part must be used to replace capitalised wealth used up in the course of production Otherwise, the nation will be living on its capital. We must distinguish, accordingly, between gross and net income from this source. Again, we must be careful not to count income from this source twice over. For example, we must not include in our estimate of the national income the interest on railway debentures as well as the net earnings of the railway out of which this is paid. Finally, so far as capitalised wealth in India is the result of borrowing from England part, at least, of the income derived has to be paid to those from whom it was borrowed. Allowance must be made for this fact in estimating India's *net* national income.

The total population of British India (excluding Burma), to which all the estimates contained in this article relate, was 232

millions in 1911. Of this total 164 millions or 70·5 per cent. were returned as persons supported by ordinary cultivation, including landlords (and their agents), cultivators, and agricultural labourers. Of the actual workers included in this total about 8 per cent. were returned as partially supported by some non-agricultural employment, this being equivalent to a total (including both actual workers and dependants) of 13 millions. On the other hand, the equivalent of 5 millions returned in other occupations were partially supported by agriculture. Assuming these statistics to represent the facts with tolerable accuracy, we should perhaps be justified in taking three-quarters of the first total to be wholly supported by agriculture, and one-quarter (*viz.*, $3\frac{1}{4}$ millions) to be wholly supported by other occupations; and similarly one-quarter of the second total (*viz.*, $1\frac{1}{4}$ millions) to be wholly dependent on agriculture. This involves a net reduction of 2 millions in the number supported by ordinary cultivation, making that total 162 millions or approximately 70 per cent. of the total population. Applying the same principles to the census returns for 1891, so far as changes in classification allow, we have a corresponding total of 143 millions or 67 per cent. of the total population at that date. This smaller proportion at the earlier date, pointing as it does to a substantial increase in the dependence of the Indian population on agriculture since then, is a well-marked feature of the census returns. The explanation of the change is two-fold. The enormous expansion in trade, both inland and foreign, has proved fatal to much indigenous industry; while, at the same time, it has made agriculture, especially in certain directions, more remunerative than ever before

The main agricultural products which come under the head of "ordinary cultivation," to which the above statistics of population relate. are food-grains, oilseeds, sugar, cotton and jute. Unfortunately, the official estimates of outturn cannot be said to be altogether reliable; and in permanently settled areas, especially, where no special agency exists for the collection of statistics of cultivation, they are the result of little better than

guesswork. Since, however, they form the only possible basis for any computation of India's national income as a whole they must be accepted for whatever they are worth. In compiling the tables appended to his report on the Rise of Prices Mr. Datta applied such corrections to the figures as he found possible; and I have adopted below the statistics of outturn as given by him. As some slight test of the general reliability of my results for all India, I have abstracted the figures for certain selected areas, the information for which is of a relatively authoritative and trustworthy character. In the table of estimated *net* outturn given below I have made the following deductions for seed, *viz.*, 5 per cent. in the case of rice and oilseeds, 10 per cent. in the case of wheat, and 2 per cent. in the case of other food-grains.

Estimated net Outturn (in lakhs of maunds) of :—

		1891.		1911.
FOOD-GRAINS ...		... 1,75,50		2,02,50
Rice	... 64,50		78,00	
Wheat	... 20,00		21,00	
Other (including millets and pulses)	91,00		1,03,50	
OILSEEDS ...		... 4,50		5,80
SUGAR (GUR) ...		... 7,40		6,80
COTTON ...		... 1,00		1,40
JUTE ...		... 3,20		3,60

One observation that may be made on the above table, in passing, is that in spite of a greatly increased production of cotton, jute and oilseeds (balanced to a limited extent by a reduced production of sugar) the net outturn of food-grains per head of the total population rose from 328 to 349 seers per head. That this was not the result, as might perhaps be imagined, of the changes due to extended irrigation which have taken place in the Punjab and Sind during the period under review is evident from the fact that, while the absolute net return was greater at both dates in those

provinces than in India generally, there was a comparative falling-off in the average yield per head, *viz.*, from 361 to 358 seers.

An estimate of the cash value of the above can, at the best, be but a rough approximation. To begin with, a very large proportion of the crops produced is retained by the cultivator for his own consumption, and does not come into the market at all. Any money value placed upon this portion is bound, accordingly, to be a somewhat artificial figure. If we adopt the same basis for our estimate of prices at each date, however, the figures may be accepted as a fairly reliable *comparative* statement of India's agricultural wealth at 1891 and 1911, respectively. The prices I have taken are as follows. In the case of grain and oilseeds I have taken the predominant wholesale price, as recorded in Mr. Datta's Report, for the *most important growing districts*. Where more than one quality of rice was quoted I have taken the price of common rice. I have taken an important millet like jowar as representative of "other" food-grains, and linseed as representative of oil-seeds. Owing to the very wide range of prices given for 1911 in the case of linseed, I have substituted a 75 per cent. increase on that for 1891, this being the recorded percentage increase in the wholesale prices of oilseeds generally. In the case of raw cotton and jute I have taken the mean of the wholesale prices for different grades recorded for Bombay and Calcutta, respectively.

The values (to the nearest four annas) thus obtained are as under :—

		1891.			1911.		
		Rs.	A.	P.	Rs.	A.	P.
RICE	per maund	2	12	0	3	8	0
WHEAT ...	... ...	2	8	0	3	0	0
JOWAR ...	... ...	1	12	0	2	12	0
LINSEED ...	... ...	3	12	0	6	8	0
SUGAR (GUR)	... ...	4	4	0	4	12	0
COTTON ...	... ...	19	0	0	34	0	0
JUTE	... ...	6	0	0	9	12	0

Applying these prices to the figures for outturn, we have :–

(In lakhs of rupees)

		1891.		1911.
FOOD-GRAINS	...	... 3,86,63		6,20,62
Rice	... 1,77,38		2,73,00	
Wheat	... 50,00		63,00	
Other	... 1,59,25		2,84,62	
OILSEEDS	...	... 16,88		37,70
SUGAR (GUR)	...	... 31,45		32,30
COTTON	...	... 19,00		47,60
JUTE ...	...	... 10,20		35,10
	TOTAL	... 4,73,16		7,73,32

It now remains to allow for the cost of marketing, on the hypothesis that the whole of the produce is marketed. First, then, we have the cost of carriage. Forming a rough idea of this from the average cost of moving agricultural raw produce, as shown by the railway returns, we may allow half an anna in the rupee under this head. Another half anna may be allowed for miscellaneous items in the cost of marketing. In the case of jute and cotton an extra anna in the rupee must be allowed for the cost of ginning and pressing, which are processes of a non-agricultural character. It may be held that a similar deduction ought to be made from the wholesale price of rice and sugar (gur) to cover the cost of preparing the rice from the paddy and the gur from the sugar-cane; but in these cases the processes involved belong, as a rule, to the ordinary rural economy, and the extra values created may be legitimately included in India's agricultural income as such. Finally, we may perhaps allow, as a fair average, two annas in the rupee on account of wholesalers' profits. The aggregates given above will, accordingly, be subject to a deduction of 3 annas in the rupee (or 18¾ per cent.) over all, and an additional anna in the case of cotton and jute. The resultant totals are 3,82,05 and 6,23,15 lakhs, respectively. These figures, it must be clearly understood, are based not on village but on town prices. The latter form the sole continuous record available; and it is not possible to devise means for converting them with any accuracy into village prices. All that

is necessary, however, to obviate the discrepancy is to bear in mind that the money in terms of which India's agricultural produce (whether consumed at home or sold in the market) is expressed is money taken at its purchasing-power in the towns of India and not the villages.

The sums thus estimated as the income from agriculture in India include the payments made on account of land revenue, charges for irrigation, agricultural rent, wages of agricultural labour, returns on agricultural capital, besides the subsistence and profits of the cultivator. It remains to be considered to what extent provision must be made to replace capital used up in the processes of production. First of all, as regards plough and draught cattle. Generally speaking, no special provision is necessary under this head, since the renewal of live-stock is provided for by natural increase. Next, as regards implements. The latest figures available (adding an estimate for Bengal on the basis of population) give a total of 23 million ploughs and 6 million carts. Allowing one rupee per annum per plough and five rupees per cart to cover the renewal and maintenance of all agricultural implements, a provision of $5\frac{1}{4}$ crores would be necessary under this head. Finally, as regards permanent improvements. Permanent improvements in India are confined, mainly, to irrigation works; but these are of very considerable importance. The working expenses on State irrigation amounted to about $2\frac{1}{2}$ crores, in the aggregate, in 1911. In 1891 they amounted to about half this. They include (1) establishment charges connected with revenue management; (2) establishment charges connected with maintenance of works; (3) cost of repairs; and (4) miscellaneous charges. Taking half the expenditure under the second head, and adding this to the cost of repairs, we find from an analysis of the detailed figures for the chief canal systems (for 1891) that these two items—which represent the cost of maintenance proper—amount to approximately 50 per cent. of the aggregate. Thus we may assume that about $1\frac{1}{4}$ crores was spent on maintenance of public irrigation works in 1911. If we assume, further, that

twice this amount is spent on the maintenance of the vast number of scattered private works, we have a total of $3\frac{3}{4}$ crores to be provided for the renewal and maintenance of agricultural improvements. In all, then, the figures given above need to be corrected to the extent of 9 crores in 1911 and, let us say, 6 crores in 1891. Thus we have, finally :—

	No. of population supported.	*Net contribution to national income.*	*Average per head.*
		Rs.	Rs.
1891 ...	143,000,000	3,76,00,00,000	26
1911 ...	162,000,000	6,14,00,00,000	38

An estimate on similar lines for the following selected areas (*viz.*, the United Provinces, the Central Provinces and Berar, the Punjab, the N.-W. F. Province, and the Bombay Presidency) is as follows :—

	No. of population supported.	*Net contribution to national income.*	*Average per head.*
		Rs.	Rs.
1891 ...	66,800,000	1,60,00,00,000	24
1911 ...	72,100,000	2,88,00.00,000	40

Confining ourselves to those areas for which the more reliable information is available, we thus get a greater percentage increase in average income than when we take the returns for India as a whole. It is probable, therefore, that the percentage increase, as shown by the latter, is, if anything, an understatement. It amounts to 46 per cent. (as compared with 66 per cent. in the case of the selected areas). The rise in prices during the same period, according to Mr. Datta's estimate, was 36 per cent.; so that, on the whole, taking the figures for all India as they stand, the purchasing-power of the agricultural population may be said to have risen by 10 per cent. It is, of course, an altogether different question how this increase may have been distributed among the different classes of the population. The result at which we thus arrive is the more reassuring if we take into consideration the following facts. The area under cultivation for the crops dealt with increased (so far as

we can rely on the published figures) by only 12 per cent., whereas the estimated total number of persons supported increased by over 13 per cent. during these 20 years. The new land brought under cultivation was naturally inferior, as a rule, in productive power to the old. India was passing, and is still passing, through a period of economic transition.

One more point may be noted here. The land revenue, which amounted (excluding Burma) to 22 crores in 1891 and to 26½ crores in 1911, was 5·85 per cent. of the estimated net income from agriculture at the earlier and 4·3 per cent. at the later date.

It may be objected that the estimate framed above of India's agricultural income is not a comprehensive one; while, on the other hand, no deduction has been made for the cost of what may be called the raw material of the industry, *viz.*, fodder for the plough and draught cattle and manure. The answer to the second objection is that the Indian agriculturist is nearly self-sufficing in both particulars; and as no estimate has been framed of the fodder value of his various crops or of the value of the manure obtained (mainly) from his cattle, no estimate need be made of their cost. With regard to the first objection, the aggregate income from "ordinary cultivation" has been designedly under-estimated in view of the fact that, even when all possible allowances have been made, there undoubtedly remains a substantially larger proportion of the population to be accounted for under this head than that which the census returns reveal. For example, if we look at the analysis of the occupations of the village population (90 per cent. of the whole) in the Census Report for 1911 (p. 408), we find that besides 70 per cent. engaged in ordinary cultivation, 7 per cent. employed as artisans, and 4 per cent. as village servants and traders, there are 9 per cent. returned under miscellaneous heads (including general labourers, herdsmen, cartmen and palki bearers, oil-pressers, grain huskers and parchers, and village watchmen) many of whom must be, partially at least, supported by cultivation. To under-estimate the aggregate income from agriculture is thus to

correct one error by another; and minor crops, like tobacco; fruit and vegetables; milk and ghee; hides of dead cattle; all add considerably in the aggregate to the income of the Indian agriculturist.

There are no data available for estimating the income derived from the innumerable indigenous industries, in which roughly 7 per cent. of the population is employed; but since the capital involved is trifling there is no reason to suppose that the *per capita* income of this class differs much, at least so far as the village population is concerned, from that of the agricultural classes. Very different, however, is the case with industries of the modern type in which large capitals are employed. Here the *per capita* returns are naturally very much greater. Other things being equal, the larger the capital employed, the larger will these returns be. Unfortunately, the net return from such industries can only be estimated quite roughly. A good deal of statistical information exists, more especially in connection with the cotton and jute trades, but it is incomplete, besides proving on analysis to be not altogether reliable. What is wanted is a census of production, taken at intervals of 3 or 5 years, applying to all industrial concerns employing a daily average of 50 persons or more, showing both the gross value of the total output and the total cost of the materials used. Without this it is impossible to obtain any true idea of India's industrial progress in the modern sense, or of the net addition to the national income which results from industrial development.

Making use, however, of such materials as are available I propose to take up in turn the railways, the cotton and jute industries, and coal mining.

The service rendered by railways in the conveyance of passengers, and the contribution thereby made to the national income are too obvious to require explanation In the case of goods the service rendered by railways consists of bringing commodities from the places at which they are produced (or imported from

abroad) to the places where they are wanted for consumption or export. The additional value thus given to the goods, represented by the freight, is *included* in their value if estimated at the point of final consumption or export; but in the estimates framed above of the value of agricultural raw produce I have taken, so far as possible, the original selling value, which is exclusive of freight. Hence the additional value given to the raw produce by the railways must be accounted for separately, and constitutes an independent and important contribution to the national income.

The gross earnings of Indian railways were 24 crores in 1891 and 55¼ crores in 1911. Correcting these totals on the basis of mileage, we have for British India (excluding the Native States and Burma) 17 and 39 crores, respectively. The corresponding totals for working expenses were 8 and 20. To arrive at an idea of the total net return from the labour and the capital combined we must deduct from the gross earnings only so much of the working expenses, however, as represent the cost of maintenance of permanent way, bridges, buildings, locomotives, and rolling stock, and the cost of fuel, etc. Analysing the details of working expenses as given in the Administration Report on the Indian Railways, it is seen that approximately three-quarters of the sum entered under "locomotive expenses" may be allotted to cost of fuel, etc., and to maintenance and renewal of locomotives and machinery. To this must be added the sums entered under "maintenance of way, works and stations" and under "carriage and wagon expenses." Together, these three items amounted to about 64 per cent. of the total working expenses in 1891 and about 60 per cent. in 1911. We have accordingly to deduct from the gross earnings 5 crores and 12 crores, respectively, leaving us with total net earnings from labour and capital combined of 12 crores for 1891 and 27 crores for 1911. The number of permanent employees, after correcting the figures in order to exclude the Native States and Burma, was 187,000 in 1891 and 394,000 in 1911; and from the census returns it appears that these totals should be multiplied two-and-one-third times to give the

total number of persons supported, including actual workers and dependants. Thus, finally, we have as follows:—

	No. of population supported	*Net contribution to national income.*	*Average per head.*
		Rs.	Rs.
1891	... 436,000	12,00,00,000	275
1911	... 919,000	27,00,00,000	294

The total number of workpeople employed in cotton and jute mills in 1911 was 430,000; or, allowing for dependants on the basis of the census returns, the total number supported was 688,000. The capital involved amounted, approximately, to 32 crores. The corresponding totals for 1891 were 277,000 (persons supported) and 15 crores (capital). Failing materials for a more satisfactory estimate of the net income from these sources, I propose to frame one as follows. Census of production returns for various countries show that the net output of textile mills bears the same proportion to the capital employed as does 1 to between 2 and 3. There is reason to believe that the return both from cotton and jute mills in India was greater in the earlier than in the later years of the period under review; but employing the proportion of 1 to 2·5 in each case, we have as the value of the estimated net output of these mills in 1891, 6 crores, and in 1911, 13 crores. Allowing 8 per cent. depreciation on two-thirds of the capital (which represents, approximately, the value of the buildings and plant), these totals have still to be corrected, however, to the extent of 80 lakhs and $1\frac{3}{4}$ crores, respectively, to allow for renewal and maintenance. Thus we have, finally:—

	No. of population supported.	*Net contribution to national income.*	*Average per head.*
		Rs.	Rs.
1891	... 277,000	5,20,00,000	188
1911	... 688,000	11,25,00,000	163

Coming now to coal mines, the total number of workpeople employed in 1911 was 116,000; or, allowing for dependants, the

total number of persons supported was 186,000. The corresponding total in 1891 was 56,000. The value of the gross output at the mines' mouth was 79 lakhs and 3¾ crores, respectively. From this must be deducted the cost of the materials used (coal, explosives, timber) besides the cost of maintaining the plant. As regards the former, in England this amounts to between 13 and 14 per cent. of the value of the gross output; putting it for India at 10 per cent. we have to deduct 8 lakhs on this account in 1891 and 37½ lakhs in 1911. The capital employed may be estimated at one crore at the earlier and 6 crores at the later date; and allowing for 8 per cent. depreciation (on two-thirds) this gives as cost of maintenance 5 lakhs and 32 lakhs, respectively. Thus we have as the estimated net return from coal mines in 1891, 66 lakhs, and in 1911, 3 crores and 5 lakhs, including rents and royalties, returns on the capital invested, and wages of labour. To this should properly be added the net value of the by-products of coke-plants at the collieries; but this is an unimportant amount. We have, therefore :—

	No. of population supported.	*Net contribution to national income.*	*Average per head.*
		Rs.	Rs.
1891	... 56,000	66,00,000	118
1911	... 186,000	3,05,000	164

Last, we come to the income tax returns. The Income Tax Act of 1886 provided for the taxation of non-agricultural income under four heads, *viz.*: (1) salaries and pensions; (2) profits of companies; (3) interest on securities; (4) income from other sources. For the reasons mentioned at the beginning of this article it would be wrong to include income assessed under the third head; and we may also omit income assessed under the second head since this has already been included, partially at least, in the estimates of the returns from industrial concerns given above. We are thus left with the income of salaried employees in Government and private employment under the first head; and the income of merchants and dealers, private

bankers and money-lenders (alone responsible for one-third under this head), house-owners, pleaders and other professional men under the fourth head. About half the income under the first head consists of salaries paid by private firms (including railway companies), so that there is bound to be some duplication here also with the returns given above. For our present purpose, however, this is of small importance.

The Income Tax Act was amended in 1903 so as to exempt incomes below Rs. 1,000 a year; and the returns for 1891 have accordingly been corrected to exclude incomes below this limit so as to make them comparable with those for 1911. Correction of the figures for India generally has also been necessary to exclude Burma, the exact particulars not being obtainable. The figures thus corrected are as follows :—

	No. of Assessees.	*Amount of tax collected* Rs.
1890-91	... 145,000	1,03,00,000
1910-11	... 249,000	1,78,00,000

Now roughly four-fifths of the assessable income throughout the period paid at the rate of 5 pies in the rupee, the remainder (incomes below Rs. 2,000 a year) paying at the rate of 4 pies. The mean rate of assessment was accordingly 2·5 per cent., giving as the total of assessable income 41 crores in 1891 and 71 crores in 1911. These sums represent the contribution to the national income (though in many cases doubtless understated) of the classes enumerated above. So far as light is obtainable on the point from the census returns it would appear that the number of assessees must be multiplied four times, at least, to give the total number of persons supported by incomes subject to the tax. Thus we have, finally :—

	No. of population supported.	*Net contribution to national income.* Rs.	*Average per head.* Rs.
1891	... 580,000	41,00,00,000	707
1911	... 996,000	71,00,00,000	713

It will be seen from the above that the numbers in what may be called in the wider sense the professional classes, enjoying an average income per head of rather more than Rs. 700 a year, increased by over 70 per cent. during the period under review as compared with an increase of less than 9 per cent. in the population generally. This is highly satisfactory, so far as it goes. The increase which has been steady and continuous throughout the period, is equivalent to a net addition of over 5,000 on the average, each year, to the number of income tax assessees. Recently, however, the growth of the educated class, measured by the number of those obtaining University degrees, has tended to overtake this rate of increase, a state of things which gives rise to somewhat grave misgivings.

The figures which I have given for the railways and for industries of the modern type like the cotton and jute trades illustrate at once the remarkable growth in this field of employment and the relatively insignifiant place it still occupies in India's national economy. The latter fact will become clearer if we now attempt to combine the various results obtained above. This I propose to do as follows. The total population we are dealing with (1911) is 232 millions. Thus the actual numbers returned as belonging to the professional (income tax) paying class and those belonging to the class of railway employees represent, approximately, 4 per 1,000 of the total population in each case. Bearing in mind the large numbers employed in railway workshops (exclusive of permanent employees of the railways) and the smaller numbers employed in woollen and paper mills and other industrial establishments, we may perhaps place another 4 per mille under the head of industries (of the modern type), and apply to this number the *per capita* income obtained for cotton and jute mills. Similarly, we may place one per mille under the head of mining, and apply the *per capita* income obtained for coal mines. This leaves us with a total of no less than 987 per mile, to which, in the absence of other, data, we can only apply the estimate of *per capita* income from

agriculture, which after all dominates the economic life of India. Proceeding in this way, we have :—

Source of income.	*Number supported per 1,000 of population.*	*Per capita income.*
		Rs.
Professions	4	713
Railways	4	294
Industries	4	163
Mining	1	164
Agriculture and Miscellaneous	987	38
Total	1,000	

Calculated in this way India's aggregate national income from her labour, her natural resources, and her capitalised wealth in 1911 was, in round numbers, 980 crores of rupees; yielding an average per head of something over Rs. 42. A computation on similar lines for 1891 yields an average per head of Rs. 28.

Last of all, we may put at an outside estimate of 20 crores (for 1911) the sums paid out of this income to English investors and others on account of interest charges on Government railways and canals (13 crores), interest on capital privately invested, earnings of British shipping, etc., thus reducing the aggregate by 2 per cent and the income per head by As. 13 to 14.

E. A. HORNE.

CURRENT TOPICS.

THE BENGAL ECONOMIC ASSOCIATION.

When this Association was inaugurated in February 1916 the hope was expressed that it might promote the Economic welfare of the Province by furthering the scientific study of the many Economic problems upon the solution of which such welfare greatly depends.

In particular the Association set before itself three definite aims—namely, the publication of a journal which should serve as the medium for circulating the studies and researches of Economists bearing upon Indian and specially upon Bengal Economic problems; the organization of periodical conferences for the discussion of questions of current interest and affording an opportunity for scientific intercourse similar to that which is enjoyed in Great Britain by the Economic Section of the British Association; and the gradual building up of an Economic Library as an efficient aid to the Economist in his researches.

Clearly the attainment of the first two objects, while calling for the expenditure of a good deal of labour, is not dependent on the enjoyment by the Association of any very considerable funds. To found and maintain a scientific library is, however, a costly matter.

After rather more than a year of existence it is possible to estimate the chances of successfully achieving the objects with which the Association was started.

The completion of the first volume of the *Bengal Economic Journal* affords an opportunity which the Editors are very anxious to take of expressing their sincere gratitude to those authors who have contributed to its pages and have already achieved for the journal a position in the Economic literature of India.

As the funds of the Association grow it is hoped to be able to offer a remuneration to contributors, but at present that is not

possible and reliance must be placed upon the goodwill and scientific interest of Economists to ensure the regular appearance of the journal.

The circulation of the journal is steadily increasing. There are already a number of regular subscribers in England and America as well as in the different Provinces of India. It is, however, not an entirely satisfactory state of things that the circulation is growing faster in other Provinces than in Bengal.

The primary purpose of the journal is to afford Economists of this Province, a medium for the publication of original studies bearing upon Economic problems. Although there are more than thirty professors of Economics attached to the various Colleges affiliated to the Calcutta University, few of them have taken advantage of the opportunity to publish original work in the pages of the journal. The Editors would take this opportunity of emphasizing the fact that, while the journal has already met with considerable support such as to prove the need for its existence, its continuance, not to speak of its efficiency, depends upon the enthusiasm of the Economists of Bengal and their desire and ability to increase the knowledge of their subject.

It is with regret that the Editors have to admit that the appearance of the journal has been delayed. It is hoped that by the gradual extension of the number of contributors such delay may, in future, be avoided.

With the present issue a change is made in the dates of publication in order to secure that each volume shall be completed within a single calendar year. In future the journal will be issued in January, April and September. It has been thought well, however, not to delay the appearance of the present number, which will form that for January, 1918, but will be published somewhat in advance.

This arrangement will enable the announcement to be made to the members of the Association that an Economic Conference will be held in Calcutta on 3rd and 4th January 1918.

It is hoped that this Conference may be the first of a series of annual meetings.

A number of prominent Economists from different parts of India have undertaken to be present and to read papers for discussion. The topics chosen for consideration are "The Economic Development of India" and "Recent Problems of Currency and Exchange." A detailed programme of the arrangements will be shortly sent to members of the Association. It is hoped that members will do their best to be present and to make the Conference a success.

The third object which the Association has set before itself has not been lost sight of, but its achievement depends upon the acquisition of larger funds which are only likely to be forthcoming as the Association becomes more widely known and as the scientific study of Economic questions grows. The need for such a library of research is already keenly felt by a few and no better service could be rendered to the subject of Economics in India than by the endowment of an institution which would so greatly help to the development of its study.

REVIEWS.

"LAW AND PRINCIPLES OF CO-OPERATION IN INDIA."—By H. E. CALVERT, I.C.S. (Thacker Spink and Co.), pp. 152. Price, Rs. 4.

BENGAL has recently seen Professor Mukherji's book on Co-operation appear. From the United Provinces has come Mr. Crosthwaite's book. And now Lahore supplies its contribution to recent co-operative literature in Mr. Calvert's commentary on the Co-operative Societies' Act. This forms a very fitting supplement to Professor Mukherji's work. The Professor's work is a much wider undertaking of course, but as a commentary on the Act Mr. Calvert's book goes into greater detail.

It has an excellent introduction, a very lucid exposition of the principles of co-operation. The style is clear and free. Sometimes terse expressions of co-operative truths make one pause to think how the circumstances of this country have forced us into a mere approximation to co-operative principles. Take an expression like this "Sloppy finance is intolerable," and think how often "slopy finance" greets us in our societies. Or again, ye directors and preference shareholders, what think ye of this:—"Co-operation . . . . does not recognize a separate capitalist class at all?" Naturally you ask "Then where do we come in?" Fear not however. Just think of every other British institution and you will find that they are all just good working *bandobasts* and that is where you come in. Here is another of Mr. Calvert's aphorisms, translated perhaps from some Italian. "It is inconceivable that a properly managed co-operative bank can go wrong." Now, ye committees, why do your societies go wrong? Keep your hearts up, however, and live and learn. And now, ye hesitating depositors hark. "The creditor's real security consists in . . . . the ability and desire of the members to put the borrowed money to productive uses." Your Bengali raiyat, bad and all as his methods are, has the ability, and, poor as his prices now-a-days are, even the desire to use his loan to turn out jute. Therefore hesitate no longer. There is much indeed for all to ponder over in this introduction. Written by an official perhaps it is useful not least to officials.

Perhaps the fault of the book is that the commentaries on the sections are at times too full, and that the author at times goes too far afield for his illustrations and analogies. Better this, however, than the opposite fault. The object of the book is to explain the Act in the light of the large mass of material, the consideration of which mass resulted in the Act itself. It will be readily admitted that the object has been attained.

The main appendix is merely an extract from the Friendly Societies' Act of 1896 consisting of the penal clauses of that Act. It is almost certain that some such clauses will of necessity be added to the Co-operative Act and a perusal of this appendix placed in juxtaposition to the Act may suggest to some to think out the kind of clauces necessary to round off the Co-operative Act.

The volume is very neatly got up, in a very handy form. It will well repay study. One feels much wiser about co-operative facts after a study of this concentrated experience of many men during many years and one cannot but strongly recommend it to every co-operator in India who can read English.

"THE BOMBAY CO-OPERATIVE QUARTERLY."—Price, 8 annas. Pages 48.

A VALUABLE addition to the periodical literature dealing with Indian co-operation has been made with the commencement of the Bombay Co-operative Quarterly. It is published under the auspices of the Bombay Co-operative Library and the first number contains several interesting articles of which, perhaps, Mr. Ewbank's discussion of the rate of co-operative progress in different parts of India will appeal most to Bengal readers. Mr. Ewbank shows that it is not easy to find a satisfactory test by which the progress of co-operation may be judged. The order of the Provinces varies according as the total number of societies, the number of societies compared with population, the average membership per Society, the average working capital per Society, and the working capital per member. Any of those criteria may be taken as the test of success. Bengal occupies, on the whole, a middle position between the most advanced and the least progressive Provinces, co-operatively speaking. Again, Mr. Ewbank points out how very different is the need for co-operation in different parts of India if its primary purpose is to provide cheap credit to the cultivator. While in Burma, Bengal, and parts of the Deccan, the normal rate of interest for the cultivator when dealing with the ordinary money-lender is not less than 24 per cent. in northern Gujerat, the Konkan, and parts of Madras respectable cultivators can borrow at as low a rate as 6 per cent. in the open market. The very reasons that explain the great need for co-operation in Bengal account also for the difficulties encountered in extending its use. It is, therefore, satisfactory to find that Bengal at least occupies a very fair position in the order of progress attained by the different Provinces judged by the various tests that Mr. Ewbank applies.

C. J. H.

THE POPULATION PROBLEM IN INDIA.—By P. K. WATTAL, M.A. (Bennett, Coleman and Co., Bombay.)

MR. WATTAL's book is to be welcomed as a first sketch of a very difficult and vast subject. Basing himself on the figures of the last two censuses the author has given us an excellent summary of the results arrived at about the various elements of the population problem in India. On topics like the possibilities of emigration, the pressure of population on the means of subsistence and the scarcity of labour in India, he assumes a critical attitude. Such literary efforts as Mr. Wattal's deserve encouragement as they awake popular interest, arouse intelligent discussion and draw attention to the vast stores of knowledge which lie hidden in our official reports.

The book begins by examining the small natural increase of the population of India in spite of a high birthrate. It then discusses the relatively smaller fecundity and the large infantile mortality. The author is on more debateable ground when he talks of the decline in the vitality of the Indian population. Our census methods have been improving and evolving rapidly and, on that account, the value of our successive censuses is very unequal for comparative purposes. Something, of course, may be due to the fact that after thousands of years of a stationary economy, India is called on to adapt itself to new and dynamic economic conditions. One can agree with the author that, in general, later marriages would be a remedy for most of the evils discussed by him. But, even assuming that the vitality of Indians is declining so rapidly, the system of early marriages cannot entirely account for it since they have been always prevalent in India. If early marriages had been a cause so rapidly sapping Indian vitality in a generation where would India have been after so many centuries of the system? The author notices, and is not quite averse to "the working of the Malthusian Microbe in this country." He might have supported himself by the authority of Pierson and some other economists.

A very good account is given, on the lines of the Census Reports, of the streams of migration within India and of the causes of such migrations. What should have been emphasized is the great fact that the standards of living and comfort have been rising in different provinces at very different rates and that, what may be called the old resultant equilibrium of such standards for India has been disturbed. This is the central fact which not only explains many features of the migrations but which is also the key to the problem of local paucity of labour. As Sir B. Robertson has just been telling us, in Berar not a single Berari is found to be working on the Akola water-works; the reason being the relative rise of the standard of comfort in Berar.

Professor Foxwell is fond of telling his classes that it is impossible for any one to enter the field of monetary controversy and yet keep command of his templer—a dictum to which its own author, however, forms a conspicuous exception. Similarly it might be observed that no one can write on the subject of population without getting an attack of nerves. Since the days of Malthus writers on population have never ceased to take a pessimistic view of the situation. The current has not been turned by Professor Nicholson's brilliant criticism of Mill. Treating of the topic of the pressure of population on the means of subsistence, Mr. Wattal expresses the fear that India is being over-populated. We cannot see adequate grounds for these fears, especially in view of the author's statement about the low natural r te of increase in India and the working of the "Malthusian Microbe." He admits, further, that given proper conditions there is considerable scope for Indian colonisation in Assam and Burma. As to the prospects of relief from irrigation, he might have noted that since the days of the Irrigation Commission of 1901-03, the prospects of the extension of irrigation have been found to be greater even than those contemplated by that Commission. Finally, when Mr. Wattal comes to study the relative growth of population and cultivation, he ingenuously admits that "there is no unanimity of opinion on this point." He might, however, have gone further and noted the promising feature that the areas under food-crops and non-food-crops are increasing simultaneously, and that our agricultural exports form a valuable reserve for feeding the population during seasons of unfavourable rains. Here, Mr. Wattal would have done well to study statistically the operation of the laws of Diminishing Returns and Increasing Returns in India—an omission to be rectified.

As the suggestion that India is over-populated is met in many quarters by the allegation of paucity of labour in India, Mr. Wattal tries to account for the latter by the view that the seeming paucity of labour is due to the inadequacy of wages. We cannot quite agree with the author in this way interpreting the phenomenon. It may be admitted that the elasticity of demand for labour in India is not anything so great as the elasticity in the Western countries. Yet, it cannot be denied that, with growing prosperity and larger imports of capital, the elasticity has increased and is increasing. It is, of course, true, as the author alleges that wages lag behind prices during periods of rising prices. But, in the long run, the adjustment is bound to come. What looks like paucity of labour may be due to the local higher standard of living; or, it may be due to the greater conservation and immobility of labour and to the greater relative growth of demand than of the supply of labour. The suggestion of the Census Report of 1901 as to the need

of labour bureaus in not so easily disposed of as Mr. Wattal seems to think. If, in the much smaller countries of Europe a vast network of labour bureaus is wanted to adjust supply to demand, a similar scheme is much more needed in our giant country which is, moreover, undergoing the throes of industrial revolution on a scale unknown before. This does not mean that we do not agree with the author's view as to the duties of employers who might encourage the flow of labour to their factories by proper arrangements as to housing of labourers and other ways of improving the conditions of their hands. The Bombay Cotton Magnates, to take only one instance, are only just beginning to awake to a sense of their duties in this matter.

It might be suggested that in the next edition of his book, Mr. Wattal might divide his work into particular studies of the population problem in different provinces, and having done that, should proceed in the final chapter, to draw the final generalisations. If he chooses to adopt this procedure, he will easily avoid many fallacies of averages which may arise if one tries to generalise at once on such a vast and heterogeneous entity as India. The arrangement by locality will also enable him to make a more intensive study of his subject.

One cannot take leave of Mr. Wattal's book without expressing one's appreciation of its merits—its lucidity of exposition, the conscientious work implied in it, and the attractive style of presenting the subject. It is to be hoped that this first sketch will be ultimately developed by the addition of more intensive studies as well as of deeper statistical and economic analysis.

J. C. COYAJEE.

"THE MADRAS PRESIDENCY."—By E. Thurston, C.I.E. (Cambridge Press: pp. 293).

"BENGAL, BIHAR AND ORISSA."—By L. S. S. O'Malley (Cambridge Press: pp. 317).

"THE PANJAB, NORTH-WEST FRONTIER, AND KASHMIR."—By Sir James Douie, K.C.S.I. (Cambridge Press: pp. 373).

These three volumes belong to the Provincial Geographies of India series, edited by Sir T. H. Holland. Each of the volumes is on virtually the same plan and contains chapters on many topics other than geographical: such as Administration, History, Religions, Agriculture, Industries, Commerce, etc. The series is intended, apparently, to provide a handbook of information for each Province of India that shall be generally descriptive of the country, its peoples, and the manners and conditions of their lives.

Covering within a small number of pages such a wide range of subjects it is inevitable that the information under any given head should be

somewhat meagre; in many cases so meagre as to be of little use. The volumes are indeed of the nature of elementary popular Gazetteers and not entirely free from the common quality of Gazetteers: that of presenting a somewhat unilluminating catalogue of mere facts. At the same time they may be of considerable value in the hands of teachers who can use them as a starting point from which to develop a fuller knowledge of the geographical, social and economic conditions of the country. The need of satisfactory text books for the use of Indian college students in these subjects is keenly felt and the present series represents an advance on anything hitherto available. From this point of view the excellent maps and illustrations with which these volumes are provided will add greatly to their usefulness.

C. J. HAMILTON.

THE MECHANISM OF EXCHANGE.—By JOHN A. TODD (Oxford University Press: pp. 255. 1917).

MR. TODD as an economist is grateful to the war for having justified the Science which he professes to the world. The war has awakened a new and living interest in economic questions. It has served to confirm the theories of the Schools and to prove the importance of those theories in the conduct of the affairs of business and of State. But, further, it has brought into existence new conditions and new problems affording a body of fresh material for economic analysis. This is true of almost the whole range of economic affairs but of the department of Exchange in perhaps a special degree. Mr. Todd's purpose in the present book is to expound the theory of the Mechanism of Exchange with special reference to our experiences since the outbreak of war. It may be said at once that Mr. Todd's book forms a welcome addition to our text books on Money and the Mechanism of Exchange. He puts the general theory of the subject simply and clearly and illustrates at length in a way that makes his book interesting to read.

The scope of the book, so far as it is descriptive, is definitely limited to the English Banking and Monetary system. This is presumably the reason why the author has avoided any reference to one of the most interesting of our developments in the sphere of Exchange, namely, the Gold Exchange standard. But, perhaps, the most noticeable feature of the book in view of the expressed purpose of the author to write with special reference to war problems is the comparatively small extent to which these new topics are really discussed. Thus, for example, although Mr. Todd includes a chapter on Markets he has not discussed the general interference with market functions and the numerous attempts to control prices by authority which have been so noticeable a feature of our war economics.

Again, it was commonly alleged by many economists before the war that the break-down of credit consequent upon wide-spread hostilities would be of so general and irreparable a character that this failure of credit would render prolonged war impossible. One of the results of the war has been to prove the comparative ease with which the first great shock to credit was withstood, and the mechanism of international and internal exchange repaired and restored to something like efficient functioning. Mr. Todd gives an account of the collapse of the London Money Market in August of 1914 and of the measures which followed, but he does not examine the principles underlying these measures or consider their bearing on the general theories of Monetary Science. These points are merely mentioned in order to show that the book under review is scarcely a complete exposition of Monetary theory as affected by war experience. However, Mr. Todd has written a book that is both interesting and useful for the purpose of the student of Economics which might very well be recommended as a general introduction to the subject. A series of statistical tables in the appendix will be found of considerable value as a means of reference to a number of important facts bearing on the various problems of Exchange.

C. J. HAMILTON.

REPORT ON INDO-RUSSIAN TRADE.—By D. T. CHADWICK AND G. W. BLACK. Simla, 1917.

THE present report is the outcome of a visit paid by Messrs. Chadwick and Black to Russia in 1916 for the purpose of investigating the extent of Indo-Russian trade and the best means for developing it.

The dominant idea of the report is the leading part played by Germany in the control of Russian trade. India is the source of a considerable number of commodities which are apparently increasingly demanded in Russia, but a great part of this trade passes through the hands of German middlemen, or rather did so pass before the war, who thus derive considerable profit from a Commerce which might, with advantage both to Russia and to India, be carried on direct.

The authors of the report have written an interesting chapter explaining the great influence which Germany has in Russian Commerce. In part the reasons for this pre-eminence on the part of Germany are peculiar to her position in Russia, but, in part, they are found to consist in the application of business habits and methods which are followed in all the centres of German foreign trade.

The advantage which Germany gets in her trade with Russia from the fact of her close geographical propinquity and the largely Germanised character of parts of Russia are advantages that are likely to continue with

little modification as the result of the war. They are situation advantages which other countries can scarcely hope to overcome. But the business habits and methods adopted by Germany in her trade with Russia are the same as those which she follows in her trade with China, Japan and India, and are capable of imitation by her trade rivals if they are deserving of it. These methods and habits to which Messrs. Chadwick and Black draw attention are in no way new. Attention has been called to them again and again. But that does not detract from their efficacy, and whether it be in Russia or in the markets of India, China, or Japan, the Germans will continue to develop their foreign trade in the successful competition with her rivals wherever she starts in the race upon something like equal terms.

Messrs. Chadwick and Black emphasize a number of characteristic features of German trade methods. Prominent among these is the readiness of the German merchant to grant long credit. Again there is the readiness of German travellers and agents to study the special needs of the foreign market. The high degree of integration in German Commerce is also noted. Shipping companies, forwarding agents, banks and consular services all co-operate as parts of an organised whole. But it appears to us that all these particular instances are merely the results of one general quality in which the German, broadly speaking, may be contrasted with the Briton. That quality is a readiness to work hard. No one who has conversed widely with representatives of British Commerce abroad would maintain either that the German businessman is abler, or gifted with more ingratiating qualities, or, in any way, capable of achievements of which the Englishman is incapable. But there is no question that the German frequently succeeds in developing his foreign Commerce at a greater rate than the Englishman because he is willing to work 10 hours a day instead of 6.

The readiness to grant long credit can really be resolved into a readiness to take the trouble to discriminate between the conditions where long credit can be given profitably and where it cannot. The careful study of the needs of the consumer is largely a question of a readiness to learn the language of the consumer and to become familiar with his ways and wants. If one were asked to indicate the chief difference between the German businessman and the English businessman at the outposts and frontiers of Commerce, the answer would certainly be that while the Englishman aims primarily at bringing his own life, his own pleasures and sports, and so forth into his new surroundings and expects to devote all his surplus energies to them, the German to a much larger extent has no interests outside his business and he is ready in the development of these interests to live much more closely in touch with the people of the country in which he is living.

C. J. HAMILTON.

THE BENGAL ECONOMIC JOURNAL.

APRIL 1918.

THE APPRECIATION OF SILVER.

(Paper read at the Bengal Economic Conference.)

It is remarkable that India has witnessed the phenomenon of an appreciating currency no less than thrice within about a quarter of a century This country has, therefore, had some experience in the past of the effects of the appreciation of silver which might prove useful for a comparative study. We might also derive instruction from the appreciation of silver coins in the Philippine Islands and in the Straits Settlements during the period of the upward movement of the price of silver from 1905 to 1907. It is here proposed to keep distinct and to study separately (1) the effects of the appreciation of silver on the position occupied by India in international trade and (2) on the Indian producer. (3) We might also glance at the effects of the appreciation on the debtor-creditor relations. Some confusion has been caused in recent controversial literature by mixing up these several issues, or aspects of the question. (4) We shall conclude by considering some lessons taught by the present exchange difficulty which might be useful for future guidance.

Our first experience of such appreciation was in the year 1890. Silver was in progressive appreciation from May to September in that year and the extent of appreciation covered the interval between 1*s*. 5 11/16 to 1*s*. 8$\frac{5}{8}$*d*. Those who want to study that problem should look up Sir D. Barbour's Financial Statement for

1891-92 and a memorandum compiled by Mr. J. E. O'Conor. Only the main results can be summarised here. The Finance Minister observed that "the rise in the average rate of exchange *largely reduced the expenditure of the Government of India*, and out of a total surplus of Rx. 2,787,100 about Rx. 1,726,500 is due to this cause alone." It can be seen from this that Mr. Webb and those who are to-day putting forward theories as to possible Government saving through the present appreciation of silver are to a considerable extent justified. The second point made by Sir D. Barbour was that the appreciation of silver did not cause a high rate of discount and was not accompanied by a great scarcity of silver in the centres of trade. Another matter which the Finance Minister noticed was that there was a certain fall in prices which was mostly to be found in the case of wholesale prices, but was not, of course, uniform. Of this conclusion we shall make some use later. The last point noted by Sir D. Barbour was that the approciation of silver caused a trade depression. While admitting the fact of the depression Sir D. Barbour made some pronouncements on the subject which may well bear repetition. "Trade between different countries is essentially a barter of goods for goods, and its extent and nature are determined, in the long run, not by the standard of value in use in either country, but by the comparative cost of production of commodities in these countries. The truth is that the apparent stimulus to, or apparent check on, exports which accompanies a fall or rise in exchange is followed in each case by a reaction of precisely equivalent magnitude." These observations may afford some consolation at the present time to us as well as to the present successor of Sir D. Barbour when so many burdens and evils are prophesied as the result of the present appreciation of silver.

We now come to the second case of a rise in the value of the rupee. It took place between the years 1895-96 and 1899-1900 when the rupee advanced from 13·63*d*. 16·067*d* This advance caused no trade disturbance and, as has been well observed, for two

reasons. "The gold par to be adopted was known in advance, while the amount of the appreciation above the minimum gold value possessed by the rupee prior to the announcement of Herschell Committee's scheme in 1895 was very small." (Kemmerer.)

(1) This brings us to the present situation. It is impossible to deny the grave nature of the crisis. Appreciation must in its nature cause trade depression, as observed by Sir D. Barbour, at least for a time. In this case two other factors have gone to increase the shock of the crisis "the rate of appreciation is very rapid," and "it is clearly perceptible to the public." As eminent economists have observed, these factors intensify the troubles accompanying appreciation.

Nevertheless it would seem that some controversialists take too gloomy a view of the situation and are grossly exaggerating the burden laid by the appreciation of silver on India. The *modus operandi* of some of these critics is as follows:—Arithmetical calculations are made out which show that for each sovereign's worth of Indian staples exported, the Indian exporter receives fewer rupees now, and thus he is injured. But the mischief does not stop there. As the export prices control home prices, all home prices are lowered and all Indian products suffer. A word may be said here as to this process of argument. The only thing assumed to be changing, by these writers, is the value of the sovereign in terms of rupees. All other elements of the situation—the foreigners' demand for our goods and the prices of our staples in foreign countries are assumed to be constant. It is with these assumptions that one disagrees since, to use technical language, such arithmetical manipulations treat an essentially dynamic problem as a static one

It is admitted unreservedly that the appreciation of a currency has by itself a depressing influence upon trade. But, under the present circumstances of India, there are important mitigating and modifying factors which should not be lost sight of. Professor Marshall used to tell his pupils that any proposit

which is simple, intelligible to the man in the street, and without modifying clauses, is false. It is not enough to make arithmetical calculations of the *possible* loss to a country due to appreciated currency in supposed simple conditions. We have to go further and see how far the conditions of trade-demand and currency in other countries tend to minimise our loss. So far as the present writer is aware, the three following modifying conditions have to be allowed for in the present discussion :—

(*a*) If the demand for India's exports is keen and inelastic on the part of other countries, we can pass on to them some of the burden due to our appreciating currency. It is a well-accepted economic proposition that burdens on trade (like cost of carriage and import or export duties) are shared by the trading countries; that one of the countries whose demand for the other country's goods is more keen and inelastic bears the greater part of the burden; this it does by paying a larger price for the goods it purchases. It is on this principle that the burden of impediments like import or export duties and cost of carriage is shared. Any one who likes can study this general principle in the pages of Mill, Bastable, or Edgeworth. On the same principle the impediment to our exports caused by the appreciating currency is shared between us and the countries to which we export our goods. The demand for Indian exports like cotton, jute, wheat or rice is, as everybody knows, very intense and inelastic on the part of other countries. As a consequence, they will shoulder the greater part of the burden by paying us larger prices for our goods in gold. A very good example of this is the large price in gold which we are getting for our cotton from Japan. Hence our exporters will not be damaged to any great extent and therefore our products for home consumption need not fear any great injury.

The above is a theoretical statement of the case which must be reinforced by facts drawn from practical experience. In 1906, owing to the rise of silver prices, the Straits Settlements raised their dollar to 28 pence, and there was a great opportunity for

studying the effect of raising the value of the dollar and of its consequent appreciation. The opportunity was luckily taken by a great economist and practical financier—Dr. E. W. Kemmerer, Chief of Division of Currency, Phillipine Islands. The result of his study was to show that those export industries of the Straits Settlements which commanded a good foreign market were not injured by the rise in exchange. He observes that "the rise of the dollar did not, as many anticipated, prove detrimental to the tin trade. The production of that staple was constant and the market was strong; as a result, the tin merchant was able to shift the burden of the rise in exchange to the foreign consumer. The same was true to a lesser extent of tapioca." On the other hand, pepper and gambier had weak markets during the period of the appreciation of the dollar and this resulted in declining dollar prices and the imposing of the burden of the rise in exchange upon the exporter and the producer. Kemmerer generalises from his experience during this period of the appreciation of the dollar thus: "If the demand for the commodity in question is strong, *the burden of the advance in exchange may be shifted to the buyer or to the foreign consumer.*" It need hardly be pointed out that the markets for Indian staple exports like jute, wheat, cotton, etc., have all along been strong, as is proved by our usually favourable balance of trade; and, during this war, the demand for our exports is stronger than ever. Hence we conclude that India can pass on to the foreigner the greater part of the burden of the rise in exchange.

We have not only theoretical and historical bases for this contention, but we have also a practical proof of it in the business methods of our exporters. Our exporters when dealing in forward business with foreigners offer two quotations, one in rupees and another, which is a higher one, in gold. Thus our exporters to Japan for future business have two quotations, one in yens, which is a higher one, and one in rupees, which is a lower one. Here is to be observed in a clearly visible form the process by which India is shifting on the foreigner the burden of the advance in exchange.

It remains to add that the view here taken about the shifting of the burden is supported by high economic authority. Thus Raffalovich observes that "there is a great demand for Indian products like jute, cotton and wheat and it is the buyers who pay the premium on the Rupee." Another high authority Mr. B. White remarks that "the exports of India are in such request by the world at present that the buyer of these goods is obliged to pay the additional cost of the Rupee and the Indian exporter secures just as many Rupees as he did before the gold value of the Rupee had risen."

(*b*) We now come to our second modifying consideration. To take a proper view of the point, let us go back to the period of Indian monetary history before the year 1893. Silver was then falling in price and the declining exchange was benefitting the exporter of Indian staples to gold standard countries. At the same time, however, prices were declining in those countries, and this circumstance was reducing the large profits of our exporters. To-day we have before us the exact contrary of the above situation. Silver is rising and with this rise of exchange, the exporter of Indian articles is threatened with some loss. At the same time, however, on account of the war conditions, prices are rising throughout the world and are thus minimising the loss to our exporters. This is a second deduction from any losses which our exporters might suffer from the appreciation.

(*c*) We now come to the third modifying condition in the situation. The appreciation of the rupee might potentially lower Indian prices to some extent, and this fact must be *pro tanto* assisting the Indian exporter. This proposition also can find precedents in financial history. Thus in 1906 when the dollar was appreciating in the Straits Settlements, we are told that there was a fall of the price level. Dr. Kemmerer informs us that there was such a fall, although it was not immediate or uniform with regard to all articles. But wholesale prices certainly showed a strong tendency to decline, for it is in that field that competition is most active.

Retail prices also fell, but to a smaller extent. But, surely, it is with wholesale prices that the Indian exporter is most concerned, and it is their fall that must give him advantage in his sales abroad. We also see that in 1890 when there was an appreciation of silver in India, wholesale prices fell with the rise in silver. Thus the experience both of India and of the Philippines shows that the exporter is to some extent compensated during a period of appreciation of silver by the fall in prices. This fall of price, if indeed it has come by now, is the third deduction to be made from any losses due to appreciation.

In the present instance I admit that the importance of this third deduction is very small, and that virtually the rupee might not have appreciated so far as the internal transactions of India are concerned. Prices are at present being acted on by so many other factors that the ablest statistician might well be puzzled in singling out the influence of the appreciation of silver. We have to consider the rise of prices through intense demand for some commodities, the speculative influences in raising prices and the influence of the increased absorption of Rupees and notes. These are so many factors acting to raise prices that any tendency of the appreciation of silver to lower prices is at most a potential one—potential but overborne by other influences. It might be said, at the most, to belong to the second order of smalls.

It is easy to quote figures to show that India occupies a highly advantageous position at present in the matter of foreign trade and one which will enable it to pass on its burdens whether from appreciation or increased freights on to the foreigner. At p. 36 of the last *Review of Trade* we read that "exports in 1916-17 have increased far more rapidly than imports. There has been a continuous and urgent demand for India's products. Imports, on the other hand, have been curtailed. The fall in total imports and the rise in exports are reflected in the large amount of Council Bills sold in 1916-17." Many other propositions of a similar purport can be quoted from this latest record. "This increase (in

the rice trade) was accounted for by an increase of **Rs. 281** lakhs due to the *larger volume of the trade* and of only Rs. 32 lakhs due to a *higher level of prices* (page 19). The year's trade in seeds was marked by a considerable increase in the quantity exported and also by the ***high prices and the strong demand*** for linseed in England (p. 24). The value of the exports of raw jute increased by nearly Rs. 65 lakhs to Rs. 1,629 lakhs. The quantity exported was, however, less than in the preceding year" (p. 15). In the case of wheat, indeed, prices fell on account of a good crop but "the decrease owing to lower prices was set off by an increase of Rs. 104 lakhs due to the larger volume of trade" (p. 21). Can any one doubt after this that India as a whole is making increasing gains from her international trade?

Too much must not be made of restrictions on exports. When the economic history of the war comes to be written it will show that though the restrictions have hit individuals they have not had much effect on the general course of trade. Even supposing that but for the restrictions our exports would be greater, where was the tonnage to carry the extra goods to come from? Let any one consult the Controller of Currency's report for 1915-16 (page 3) which asserts that "though the exports (of wheat) were somewhat smaller in volume than in the preceding year, their actual value was rather higher." As to hides and skins let him look up pages 22-23 of the *Review of Trade* of 1916-17 and he will find how little the trade taken as a whole has suffered by these restrictions. Indeed, it has on the whole considerably expanded.

Some students have argued against this view by comparing the prices of Indian imports and Indian exports. They urge that since the beginning of the war the prices of Indian exports have increased by 17 per cent. while those of our imports have risen by 70 per cent. They infer that the ratio of exchange of goods is unfavourable to India. Two objections can be urged against this procedure. Surely, for such a comparison we should look at the prices of Indian imports *in India* and of Indian exports *in foreign*

countries. For with insurance rates above 10 per cent., and freights which often equal the prices of goods the price of Indian goods in foreign countries must have risen far more than the 17 per cent. observed locally. But there is another consideration to be taken into account.

High prices and small sales are a poor business situation. While our exports are going on increasing in quantity, the imports are quantitatively falling every year. If the prices of imports are rising on account of inflation in a foreign country, the Indian responds by buying much smaller quantities of imports. The Controller of Currency says in para. 23 of his report for 1916-17 as follows:—"During this year of the war, however, such goods were to be found in the up-country bazars in much smaller quantities and then only at such high prices as would frequently induce the ordinary consumer to do without his purchases until the price should come down. It is probably correct to attribute mainly to the restriction of imports and to their high prices the fact that so few of the rupees issued during the year returned from circulation." In the "Economist" of 21st July the same view is repeated and translated thus: "The prices required by Lancashire manufacturers, however, have been considerably resisted." If one was a foreigner dealing in exports to India, how would he like a situation in which inflation would force him to charge high prices while at those prices India would not buy much of his goods?

From the point of view of the theory of international trade we cannot here take account of phenomena which amount only to a *redistribution of wealth* within the country itself. War is an essentially dynamic condition in which profits are bound to increase —perhaps at the expense of some other factors. Professor Clark tells us that profits disappear in the static condition and increase in the dynamic state. In war therefore profits are bound to increase as the conjunctur changes. Indeed, in some cases, slightly monopolistic features appear; thus during this war, owing to the difficulties of exchange, those exporting firms which had the

opportunity of negotiating their bills made very large profits indeed; while other exporters saw their business decline seriously. The producer, too, was thus at a disadvantage compared to the exporter. But this disadvantage was mainly caused by war conditions and only very partially by the exchange situation. The main problem is that of tonnage which has fairly eclipsed and thrown into background the real problem of exchange. Practical business men, when they hear the exchange situation blamed for something which it has done and for much that it has not done, point to the huge freights and insurances as a far more significant factor in the situation.

(2) The producer in every country stands to lose, it need hardly be said, in war time. He cannot, like the middlemen, improve his position by adding speculative activities to his productive ones. But in studying the aspect of the present problem we have to work at *two issues:* how has the Indian producer fared in comparison with producers in other countries? secondly, how far has such damage as he has suffered been due to the exchange difficulty. Comparing the lot of the Indian producer with that of his brethren abroad we find several redeeming features in the former? In the first place we have no inflation in India; and inflation, as economists say, is a form of ruthless taxation from which the poorer classes and the lower strata of producers suffer the most; for the trader can pass on the taxation to others in the shape of higher prices but there are classes to which this remedy is denied. In the second place certain classes of Indian producers have done very well—producers of cotton and jute for instance, and to some extent even those of wheat. To the extent that the Rupee might have appreciated in internal transactions, and prices have fallen it might be argued that producers have been losers. To this it might be answered, first, that this applies only to *some* producers, since on the whole prices have risen in India; and, secondly, that if so, the producer has obtained an appreciated rupee in exchange for his wares. So far as prices of certain agricultural commodities, like wheat, have

fallen on account of better crops (see pp. 2 and 21 of *Review of Trade, 1916-17*) there is of course no loss either to the individual producer or to the nation as a whole. From this point of view as well price statistics have to be carefully scanned before they are utilized. It is also to be remarked that the great commercial activity which is at present being witnessed in India is, in the long run, bound to improve the condition of the producer. There never was a time when India could float such enterprises as those of the Tatas with such ease and rapidity. The war has to a certain extent protected and stimulated Indian production. As the Controller of Currency has observed at p. 13 of his last report our clearing house figures form a high water mark and show not only a complete recovery from the contraction of business which occurred in 1914 but a striking expansion. In such prosperity the ultimate producer is sure both immediately and in the long run, to have a large share. The word "producer" has been used in too restricted a sense in some recent controversies. In its true sense it comprehends the whole range of workers from magnates like the Tatas at one end to the humble labourer on the other.

Those who are inclined to be pessimistic about the influence of the exchange and currency conditions are invited to study the various annual reports on the working of the Indian Co-operative Societies. Here we find conditions the very opposite of depressing —capital and deposits are growing by leaps and bounds, the portion of the capital "owned" by the agriculturists is growing fast, and the incubus of debt is being appreciably reduced. The tale told by the non-agricultural societies is even more cheerful. The faith of the leading public in the prosperity of the agricultural societies is unshaken and many central societies have more deposits offered to them than they can accept.

We may now proceed to examine how far the producer has been hit by the exchange difficulty. Here again it is necessary to remember that the exchange problem is overshadowed by the tonnage problem. Even if the exchange difficulty had not existed,

Indian exports would have been limited to the same extent as at present by the limitation of tonnage at our disposal. It is the general war conditions and not the exchange trouble which has placed the producer at the mercy of the exporter. But the exchange difficulty might have had an indirect influence on the producer. Those firms which could negotiate their bills have had a quasi-monopolistic power in the market and might have been to some extent able to domineer the market and to secure extra profits.

(3) Coming to the study of the situation as affecting debtor and creditor equities the first thing to notice is that no statistical proof has yet been forthcoming to show that in the internal transactions of the country the Rupee has appreciated. Of course *if* the Rupee has appreciated internally so as to lower prices, the creditor class gains at the expense of the debtor class. But even in that case much will depend on the length of the period during which the appreciation has continued and on the nature of the mercantile transactions in the country. In countries with an advanced economy where foreign transactions loom large the results of appreciation would be more serious than in economically backward countries. Economic history can furnish illustrations which show that in many such countries, appreciation of coinage has had very little effect of a disturbing nature on the relations between the debtor and the creditor. Thus, when the new and larger unit of value was introduced in Mexico the question of justice between debtor and creditor was discussed and the Mexican Monetary Commission thus expressed its views on the subject: "It must not be forgotten, however, that for the great majority of debtors and creditors, the better quality of the new coin will be, so to speak, neither tangible nor appreciated since they have nothing to do directly either with the exchanges or with international trade." Similarly, after the dollar was raised to 28d. in the Straits Settlements, experts agreed that some injustice was done to the debtor class but it was also urged that "the debtor class in the Malay Peninsula had invested their borrowings principally in

that territory, and that their investments were not of a character which are greatly influenced by the sterling value of the dollar; that the two shilling four pence dollar had little more purchasing power within the Peninsula than the old dollar possessed, one, two or more years before." In the case of the Philippine Islands, when the old coinage was replaced by the new one it was observed that "to the great mass of natives who bought and sold only native produce, and who seldom, if ever, came into contact with gold prices, the new peso would for a long time have no more purchasing power than the old." This expression of foreign experience shows that in the recent discussion of the debtor and creditor equities as affected by the present rise of silver there have been premature and exaggerated assertions as to the losses caused to the debtor class. In the case of India we have to note further that during the war there has been a rise of prices of a very pronounced character. The Index Number of wholesale prices in Calcutta, to take one example shows a rise of 44 points; the Index Number of exports in general indicates an increase of 17 per cent. in prices, and that of imports a rise of 70 per cent. All this rise of prices means a considerable gain to the debtor class. The appreciation of the Rupee through a rise in the price of silver may have exerted some influence of a compensatory character. From the point of view of justice between debtor and creditor such compensatory action need cause no alarm but is rather a feature to be welcomed.

It has been argued sometimes that "the raising of the exchange means crushing indirect taxation." This would be true if the rupee commanded a larger quantity of commodities—in other words, if prices in general had fallen. But all statistical evidence, as we have seen, points the other way and there is a rise of prices instead of any fall. Consequently the burden of taxation must be far from having increased. A tax-payer is only one kind of debtor and the rise of prices cannot in general be disadvantageous to him. We must also not lose sight of the fact that if the Government is the largest creditor it is also the largest debtor in the country. It has

large fixed payments to make as well as to exact. Of course it is true that "the Government of India which represents the community gains by having to pay less Rupees for a given amount of Sterling Home charges."

(4) It is now time to consider what lessons have been learnt from the present exchange situation which might be useful to India in future. It might be said that light has been thrown on two aspects of our financial policy. We have, to some extent, learnt the course to be taken when abnormal appreciation of silver takes place. Circumstances have also suggested to us some modification in our system of purchasing silver by which we can guard against being taken by surprise by such appreciation.

(*a*) Assuming a state of things in which there is an abnormal appreciation of silver and there is a depletion of a country's stocks of silver, such measures should be adopted as would make the country, for a time at least, independent of the silver market. A further issue of notes is very desirable in such circumstances. The opinion of experts in other gold exchange standard countries inclines decidedly in this direction. Thus, during the period of the rise of silver in 1906-07 the American experts advised the Philippine Government to make itself independent of the silver market by issuing notes redeemable either in silver or in gold at the option of the Government. The Government had a stock of gold but it was not placed directly at the disposal of the public, since, as in India. "gold coins when paid out promptly disappeared into hoards or were exported." Mr. Anthonisz, late Treasurer. Straits Settlements, holds the same view. He observes: "The question is often asked, what should the Government do in case silver rose above $44\frac{1}{4}d.$, and the dollars were in danger of being melted down for sale as bullion. I am convinced that the proper solution would be to leave the silver dollars to their fate and to let gold come in to take their place, not as a circulating medium but as a backing for the notes." Such is the strong opinion of experts in favour of the issue of notes. But in India, it is necessary to proceed with greater caution, since, in the

Philippines and in the Straits the people have learnt to prefer the note to the coin, which is yet far from being the case in the vast Indian moffusil. Nevertheless India has begun the experiment successfully and with due caution. Not only have the One Rupee Notes been issued but the circulation of the other notes has reached enormous and record figures. The logic of events has thus led us automatically in the right direction.

And here we may consider the opinions of those who in the present difficulty would have us buy more silver and coin more Rupees. The present rise in the price of silver is not a permanent or a long-period matter. The rise is due partly to demands for the extension of silver currency on account of the war, partly to the slack working of mines and finally to the resulting speculation in silver. Under these circumstances what is wanted is not a radical cure, but a short-period palliative, in other words, "a temporary war measure." Under these circumstances some have proposed to buy more and more silver out of the resources of the Gold Standard Fund and to coin it into more Rupees. The obvious answer is that if the silver speculators come to know that such great resources are ready to be employed in the purchase of silver there would be no limit to the speculative rise in th price of silver. We should be landed, under the scheme, in a vicious circle. Because we buy silver, the prices of silver would be rising higher, and because the price of silver (and therefore the value of the rupee) keep rising, we shall have to buy more silver again. Where is this process to end?

The result of such continued coinages as are proposed would be that we should have a heavy inflation in India. Already during the period 1914-17, there has been very heavy absorption of rupees amounting to something between 40 and 50 crores of Rupees: and when normal times return we shall have many of these rupees on our hands. Add to this the large coinage of rupees suggested by some recently and one can imagine the extent of the inflation. The inflation and the general rise of prices would tax the masses heavily and indiscriminately. Moreover, the general rise of prices under

this scheme would harm the exporters as well; by leading to the reduction of exports. This implies that when normal times return our balance of trade might tend to become unfavourable. Sterling drafts might have to be sold; but against what can they be sold, if the Gold Standard Reserve is exhausted in purchasing silver?

(*b*) The recent exchange difficulty will also shed much-needed light on the essential functions of the Gold Standard Reserve in general and on the importance of its silver branch in particular. In this respect the lessons derived from the exchange difficulty of 1917 are complementary to those taught by the crisis of 1907. The Gold Standard Reserve has admittedly two sets of functions--it has to provide both against the depreciation and against the appreciation of the rupee. In 1907 India learnt fully how to meet the troubles caused by the depreciation of the rupee. The sterling resources for providing for the payment of India's external obligations were strengthened and the mechanism for their employment was improved. The second function of the Gold Standard Reserve was, on the other hand, neglected; and the Silver branch of the Reserve which was at once the symbol and the mechanism of this function was discontinued. Moreover the purpose and offices of the Paper Currency Reserve and the Gold Standard Reserve were being constantly confused, and the former reserve was pronounced to be "the more natural place for keeping a reserve of rupees," whether the rupees were required to redeem notes or to meet an increased trade demand for rupees. A crisis like the present was necessary to teach us to emphasise the double function of the Gold Standard Reserve as well as to distinguish sharply between the functions of the Gold Standard Reserve and those of the Paper Currency Reserve.

There were several reasons why the second function of the Gold Standard Reserve,—that of providing against the scarcity or appreciation of rupees,—has been so long comparatively neglected. The first reason was the great margin that had been provided between the bullion value and the par value of the rupee. This

margin was so great that although silver rose considerably in 1906, and although this rise caused exchange difficulties in the Philippines and the Straits Settlements, India remained unaffected. This gave us a sense of security from any inconveniently great appreciation of the rupee. Another cause was the state of public opinion. As we shall see later any expenditure of the resources of the Gold Standard Reserve in laying by a stock of silver was denounced as a diversion of the fund. Finally, the difficulties of even roughly calculating the future demand for rupees—let alone the possible appreciation of silver—were immense. India, as has been well said, has taken its currency in great "gulps." This is because the commercial strength and prosperity of India have been constantly rising during the last few decades. This process can be traced, to start with, in the agricultural returns. In every period in which famine conditions have been absent, the area covered by the non-food crops which form the backbone of Indian exports has grown steadily. Larger exports mean, of course, more Council Bills and a larger demand for rupees; hence the great "gulps" of currency. To foresee and measure this process is a stupendous statistical task. The opposite problem—that of investigating the amount of gold required against an adverse exchange—was not more difficult. Yet it was not solved till the labours of Harrison and Keynes found out the *supply of rupees* in India which might be offered for sterling drafts and till the experience of 1907 furnished the data for calculating the gold required by any adverse balance of trade. The problem of studying the growing *demand for rupees* is an equally difficult one; but the events of 1917 have drawn so much attention to it that its study can no longer be delayed.

It would be well to explain the significance and the *raison d'être* of the silver branch of the reserve. It is a permanent index and symbol of the function of the Gold Standard Reserve in preventing the scarcity and appreciation of the rupee. In the second place, its existence prevents a too great investment of the resources of the Gold Standard Reserve in securities. Such excessive investment

clogs both wheels of the Gold Standard Reserve and disables it from mitigating either the depreciation or the appreciation of the rupee. Thirdly, its existence indicates an important principle which should govern the method of buying silver. It is an Indian reservoir into which the flow of silver has to be wisely directed on business principles. Our present system of purchasing silver is very ingenious and skilful. But it is also true that the guardians of the rupee branch should buy silver, in proper measure, when it is cheap and should keep it for coinage when the demand for rupees increases. After all this is the commercial principle on which any private firm acts in its purchases. Under the present system of silver purchase, attention is entirely concentrated on India's demand for silver at a particular time and too little attention is paid to the fluctuation in the supply of silver in the market. One may presume that if the purchase of silver was in the hands of the proposed Central Bank it would act on business principles in the matter. The purchase of silver on a commercial system would also pour oil on the troubled waters of the silver market. India, the biggest purchaser of silver, would enter the market when the price of silver was low and would avoid it when the price was high, thus mitigating the price fluctuations. If, to take an example, silver had been bought last year on this principle and rupees had been coined, we would have heard less of our present troubles. It may also be pointed out that so far as silver is bought at a cheaper price the profits on the rupee coinage increase and automatically strengthen the Gold Standard Reserve as a whole. It has been objected to this principle of purchasing silver that, at times, the silver thus bought would lie idle on our hands, as, for instance, if the purchase was followed by a period of declining exchange. To this argument the reply is that the gold accumulating in the Reserve is also idle if a period of rising exchange supervenes. Some price has to be paid for security in either case. Timely purchases would further have the advantage of discouraging corners and undue speculation in silver.

It deserves notice that for nearly ten years the Government of India emphasized the importance of the problem of the scarcity and appreciation of rupees and put forward one scheme after another for its solution. In a series of valuable despatches the function of the Gold Standard Reserve in preventing the appreciation of the rupee was ably discussed from every point of view. The Government of India dealt fully with the peculiarity of the Indian demand for rupees. In the letter of 29th February 1912, they pointed out "a heavy excess of exports is apt to develop at short notice and to continue for protracted periods." They had urged at an earlier date that "a sudden outburst of great trade activity may expose the Government of India to embarrassment in its attempt to cope with the demand for currency." It was to meet such demands that they wanted to keep up an adequate silver branch of the Gold Standard Reserve. The Government also showed, in their letter of 26th April, 1906, that they were fully aware of the difference of the functions of the Paper Currency Reserve and the Gold Standard Reserve. They propose "to hold this bullion outside the Currency Reserve." They also argued that the rupee branch will enable them to be at once independent of the fluctuations of the silver market and to keep such fluctuations from developing into a serious appreciation of silver. After arguing about the risk of "disturbing the silver market" they observe further in their letter of the 29th February, 1912, that "our Gold Standard Reserve silver is a bulwark against hasty coining. It supplements our general stock of rupees when the latter is running low; it gives us time to buy silver at discretion." To emphasize the double function of the reserve, the Government of India proposed that, in future, its designation should be the "Gold and Silver Reserve Fund," but they were overruled on that point by the home authorities. However, the Indian Government succeeded so far that a reserve of 6 crores of rupees was maintained for some years. The rudimentary ingot reserve had grown into the silver branch of the Gold Standard Reserve and, looking to the

important purpose which it served, it should have been increased further; for, in fixing its amount at 6 crores the fluctuations of the ordinary demands for rupees had alone been considered. No account had been taken of the possible appreciation of silver—a trick which, as we now see, the metal has played twice during the last decade and thrice during the last quarter of a century. Till 1913 the rupee portion of the reserve stood at 6 crores; but at last it was discontinued on the recommendation of the Chamberlain Commission. The rupees in it were transferred to the Paper Currency Reserve and simultaneously there was an increase of the invested portion of the reserve.

There had always been a considerable body of influential opinion hostile to the existence of the rupee branch of the reserve. Men were so obsessed with the fear of a decline in exchange that they rarely thought of the opposite phenomenon. The Chambers of Commerce termed any purchase of silver from the Gold Standard Reserve a "diversion" or a "deflection." As the Madras Chamber of Commerce wrote on the 16th August 1907, "when it became known that profits on coinage were to be diverted to a Silver Branch of the Reserve Fund, the mercantile community, through its representative Chambers of Commerce, expressed dissent." The Bengal Chamber also voiced the protests of the commercial community. The home authorities too were not always favourable to the views of the Government of India on the subject. The general opinion indeed was that a decline in exchange was the only serious danger to be feared. In deference to so much opposition the Government of India had to modify their views. They agreed, in their letter of 29th November, 1912, that the silver branch may consist according to the season of the year indifferently of gold and silver and they also gave up the sharp distinction which they had made between the functions of the silver reserve and those of the rupees in the Paper Currency Reserve.

The fact is that the silver in the Gold Standard Reserve has functions which differ materially from those of the rupees in the

Paper Currency Reserve. As Sir Robert Chalmers says, " between the call for rupees and the time when you can provide the rupees there was a buffer provided in the Indian portion of the Gold Standard Reserve." At least for sometime the Rupee portion of the Reserve can keep India from the necessity of resorting to the silver market under unfavourable conditions. In the second place the guardians of the silver branch would make it a main part of their task to watch the fluctuations of the silver market and to trace its bearings on the demand for rupees. Those in charge of the Paper Currency Reserve must mainly attend to the redemption of notes and not primarily to the exigencies of the silver market. It is also to be noted that the redemption of notes from the Paper Currency Reserve is only a partial index of the demand for rupees, since there may be a time when there is a demand for currency as such, *i.e.*, both for notes and rupees and not for the one or the other in the alternative. As Professor Kemmerer puts it " the Paper Currency Reserve has performed its proper function when it has provided for the inter-convertibility of rupees and notes. *The different funds should be distinctly separate in location and function*, and only in very great emergencies should one reserve be called upon to support another reserve, or to perform the legitimate function of another."

The same authority goes on to observe that " *the Rupee portion of the Gold Standard Reserve should have been continued, not, however, at the expenses of the Gold portion of the Reserve, but of the invested portion.*" This opinion coincides remarkably with that expressed by the Government of India when it wrote, on 26th April, 1906, as follows:— " Having regard to the rapid progress of our accumulation of Gold in the Gold Reserve Fund in the past five years we consider that the question of its further accretion by interest is now of less importance than the formation and maintenance of a sufficient reserve of silver bullion. Our currency system is unavoidably artificial, and the profits arising therefrom should be primarily utilized, not in breeding interest but in protecting it against risks to which an artificial system is liable.

At the outset the main risk aprehended was an inadequate stock of gold, hence the creation of the Gold Reserve Fund. Now the pressing danger is a temporary deficiency in our stock of rupees, which equally justifies the expansion of the Reserve Fund so as to include a silver bullion branch." It is a curious commentary on these dicta that in the very period which was to see a phenomenal and embarrassing rise of silver the investments of the Gold Standard Reserve were largely increased. India took her largest gulp of currency in the post-war period, and it was this which contributed substantially to the present rise in the price of silver. By an irony of history, when the time came when the silver branch would have been called upon to put forward its maximum powers, it was found to be extinct. Had it continued to exist it would have meant a *pro tanto* smaller locking up of the Gold Standard Reserve in securities and it would have mitigated the present situation when the Reserve cannot be utilized to meet the existing exchange difficulty.

In this connection we may turn our attention to a dictum of the French Commission on the Stability of Exchange which indicates how closely the maintenance of the Gold Exchange Standard depends on the careful purchase of silver for coinage. That Commission asserts that "the early establishment and permanent security of the gold exchange standard in countries now upon the silver standard would be materially aided by stability in the price of silver bullion. Stability in the price of silver bullion would be promoted by reasonable regularity in the purchase of silver required by each government for actual coinage purposes." R·gular and systematic purchase of silver for India, it might be added, implies the existence of a silver branch of the Gold Standard Reserve.

J. C. COYAJEE.

THE AFTER-WAR PRICE OF SILVER.

(Paper read at the Bengal Economic Conference.)

THE principle of the Indian Currency System since the closing of the Mints has been the regulation of the supply of rupees in active circulation in such a manner that the exchange ratio between the sovereign and the rupee may be constant whatever be the exchange ratio between gold and silver. Till very recently this object has been attained; partly by regulating the coinage of rupees, and partly by regulating the proportion of rupees in active circulation by the sale of council bills and, in exceptional times, by the sale of sterling drafts. It is however obvious that there have always been certain limits to the effective control by Government of the exchange value of the rupee. There are circumstances in which the Government cannot control the supply of rupees. That control must necessarily cease to be effective in case the gold price of silver in India should fall so low that private coining would be practicable on an extensive scale; or in case the gold price of silver in India should be so high that it becomes profitable to melt down rupees. Of these two limits the latter is by far the more rigorous. With efficient police administration private coining can be restrained. The melting down of coins cannot be checked.

It therefore follows that the choice of lines of action which will be possible to the Indian Government in relation to the rupee in the period after the war will be determined in certain respects by the after-war price of silver. As long as the war lasts the Government can exercise a control over commerce, creating consequently a great deviation between Indian prices and world prices of silver as well as other articles, which it would be very difficult and inadvisable for a Government to attempt to exercise during peace. I would therefore

suggest that its policy in regard to exchange, even during the war period, should be influenced to a considerable extent by an intelligent anticipation of the probable condition of the silver market in the future.

With regard to either gold or silver we can regard the purchasing power of the metal as being determined in the main by three conditions:—

(1) The supply of the metal, which is largely influenced by the cost of production,
(2) The demand for the metal for the purpose of coinage,
(3) The demand for the metal for purposes other than coinage.

Gold may be termed a commodity of medium or unit elasticity of demand. Other things being equal, if gold depreciates in any particular ratio, the quantity of gold required to effect exchanges is increased in the same proportion. The same phenomenon applies also to a very great extent to a demand for gold for purposes other than coinage. These purposes mostly come under the head of "swank." The gratification a lady gets from wearing a certain quantity of gold upon her person does not depend upon the weight of the gold but upon its exchange value. The same degree of elasticity of demand applies to silver where silver is used for ornament, or for money under a system of free coinage. But where silver is used for subsidiary coinage, or for the chief coinage of a country where the money is regulated by a gold standard, the demand for silver is determined, not by the appreciation or depreciation of that metal, but by the appreciation or depreciation of gold. More silver is required for coinage purposes in all countries that have a gold standard whenever the purchasing power of gold falls.

Bearing in mind these preliminary considerations, we will now proceed to consider the condition of the relative supply of gold and silver. We note that during the 70 or 80 years up to 1914 the annual production of silver has shown a remarkably uniform increase; but that of gold has shown violent fluctuations. In 1848 the world's

production was only about £5,000,000. In 1853 it rose to over £31,000,000. Then it slowly dropped until about 1890, when it was about £22,000,000. Subsequently within a few years it sprang up to over £90,000,000 per annum, at which figure it has been fairly steady of late years. The steady rise in the production of silver, however, lasted only till the year 1914, when the output of Mexico, which had supplied more than a third of the total was reduced by about two-thirds. The consequence was that the world's output which had averaged over 220,000,000 oz. for several years before 1914, has since averaged only about 170,000,000 oz.

It is extremely difficult to forecast the output of the precious metals. We can however anticipate with a good deal of confidence that the cessation of the world's war will be followed within a short period by a restoration of order in Mexico and by a recovery of the silver output. We may also, I think, anticipate very confidently that the world's output of gold will continue somewhere about its recent figure. We must notice that a continuation of this high annual addition to the world's stock of gold means a continual addition to the supply. It would appear that the total supply of gold available for use for all sorts of purposes will increase at a slightly greater rate than that of silver. In so far, therefore, as we can forecast the influence of variations in future production on the gold price of silver, we may, with some hesitation, conclude that they will tend rather to an appreciation of silver than to its depreciation.

Far more important will be the influence of the condition of demand; and of the two demands, that for coinage will be the more effective in determining the price of silver.

Since 1896, gold has been depreciating, a fact which has been brought home to everybody by the general rise of prices. Probably, on the whole, the factor which has been of the greatest importance in effecting this depreciation has been, not the increase in the world's supply of gold, but a change in the methods of effecting exchanges in gold using countries, the use of credit instruments increasing and that of actual coin decreasing. This movement has been greatly

accelerated by the war, and its effect has been intensified by such Governmental action as the use of treasury notes in England, and similar action elsewhere. We may, in fact, anticipate that after the war countries that are nominally gold using, will use practically no gold for internal circulation, but only paper and silver and bronze or nickel coins. This will itself necessitate a relative increase in the demand for silver for coinage purposes as compared with gold, and this will be an effective force tending towards the appreciation of silver.

Again, the rise of prices which was taking place between 1896 and 1914, and which has been greatly intensified by the war, will not be counteracted, we may be sure, by any very great fall of prices after the war. It would take me too long to explain at all fully my reasons for holding this opinion. But I may just remark that the situation will largely depend upon the policy pursued by the Governments of the belligerent states; and that it will be both the duty of these to endeavour to prevent any great slump of prices which would produce a disastrous depression of trade; and also their interest to do so because they are themselves all very heavily in debt. I am sure that you will agree with me, that though there may be a considerable fall in world prices when peace is restored as compared with the highest prices reached during the war, the after-war price level will be considerably higher than the pre-war level.

Let us see now the effect of this future high level of prices upon the demand for silver. As previously suggested it will involve an increased demand for silver for subsidiary coinage in Europe and America. Far more important will be its effect upon India. During the war the price level in India has ceased to be closely affected by the price level in the rest of the world. Take a particular example—this summer rice was being retailed in Madras at a 1¼d. per lb., in England at 6d. per lb. With the restoration of normal trade conditions the price must rise in Madras and fall in England. The termination of the war must be followed by a great rise in the prices

of Indian products, rapid in proportion to the speed at which shipping becomes available. Assuming that the monsoon does not fail, this will involve a great increase in the quantity of money circulating in India. To a certain extent the demand for more money may be met by further issues of paper and greater use of credit instruments. But I do not think that this will preclude the necessity of a great increase also in the number of silver rupees in circulation, unless, of course, the Government should be so ill-advised as to bring gold coins into circulation on a large scale.

We have also to anticipate during the period following the restoration of peace great developments in the trade of China and Africa, and a further great growth in the rapidly expanding trade of South America. Since these vast areas will require in consequence much more silver money there will be there also an increase in the demand for silver. The one circumstance that we can anticipate which will have some neutralising influence, is that the demand of India for gold for ornaments may increase very rapidly.

In all these matters we are, of course, dealing only with probabilities. We can, however, I think, conclude that the balance of probability is strongly in favour of higher prices for silver. On the one hand it appears to be very improbable that the price of silver will fall below 30d. per oz.; on the other hand, it is by no means improbable that its price will rise to something like 60d. per oz. We may therefore anticipate that should the Government desire to restore the rupee to its old value of 2s., no difficulty will be presented by an excessive fall in the price of silver. On the other hand, it is extremely probable that the rise in the price of silver will be such as to compel Government either to raise the gold value of the rupee or to alter the weight or composition of the coin. The latter course appears to me to be very undesirable. But I should like to put the question *whether there is any serious objection to the restoration of the rupee to its ancient and traditional exchange value of 2s.?*

For the reasons explained above, it appears to me very certain that gold prices in India for Indian products will rise not less than

50 per cent. above their present level. If this be so, a rise of 50 per cent. in the gold value of the rupee would be no disturbance to the internal relations between debtor and creditor, or between State and tax-payer, or between employer and worker, or between the trader and the recipient of fixed incomes, but would only be a mitigation of the disturbance which would otherwise be caused by the rise of prices. It would, for example, inflict no injury upon the zemindar or ryot who pays the land revenue. He would still be getting a somewhat larger number of rupees for his crops and would be able to pay the Government the same number of rupees as previously without hardship. But when those rupees were in the hand of Government, their efficiency, as an instrument for paying the interest on the sterling debt, would be increased by 50 per cent. With regard to export trade, it is certain that the exporters would vigorously oppose such a rise in the exchange value of the rupee as is here suggested and would plead that their prosperity was seriously affected. As a matter of fact, however, the thing that determines their profits is the relation between gold values of Indian products in India and outside, and the conditions with regard to that will certainly be such as to make export trade phenomenally profitable. In so far as it was a fact that they were affected by the 2s. rupee, it would only be by way of a small deduction from a vast increase in profits. The rise in the rupee, again, would be but bare justice to the European in India who has to remit money home. The grievances of these people, when they were loudly voiced, at the time of the falling rupee, were largely imaginary. That was also a period of falling gold prices, and while the Indian Civil Servant who remitted home a portion of his salary got fewer sovereigns for a given number of rupees, each sovereign had increased its purchasing power in nearly the same proportion. But everyone who remits money now in spite of the rise of the rupee to 1s. 5d. has a real grievance. The purchasing power of the rupees that he remits have fallen in England to something less than half what it was before the War. A 2s. rupee would, therefore, be, not an unfair advantage to the remitter, but a mitigation of the

unfair disadvantage to which he would otherwise be subject. Still more important is the case of the great body of Indian people in receipt of salaries and wages, the money value of which does not vary very much. They all are in danger of suffering a great calamity through the rise in gold prices; and this calamity would be greatly mitigated by a rise in the exchange value of the rupee.

I can see no considerations of equal weight and importance on the other side, and I am therefore of opinion that it is both possible and desirable for the exchange value of the rupee to rise. I conclude therefore that during the present exchange difficulties, the policy of the Government should be guided by a deliberate intention to effect a permanent rise in that exchange ratio.

GILBERT SLATER.

OUR CURRENCY PROBLEMS.

(Paper read at the Bengal Economic Conference.)

As is well known we have had to contend with various Currency difficulties in the past two years, all directly arising from the fact that the balance of trade is going very heavily in favour of India. This again is due to two causes—(1) the expenditure by the Indian Government on behalf of the Home Government is recouped by them at Home, and thus obviates the necessity for the Secretary of State to draw on India for his own requirements as he would be normally doing, and (2) the continued rise in the prices of imported goods makes it difficult for the masses here freely to buy their usual requirements, thus causing a large amount of money to remain on their hands unspent. This last is ignorantly called hoarding.

People who are satisfied with big words speak of such hoarding, and think they have explained everything, but they have not. Is this so-called hoarding anything peculiar to India in these times, or do we see similar phenomena elsewhere? As is well known, the form this hoarding took in ordinary times in India was a large purchase of silver for ornaments. Is this going on now? We know but too well that this time our silver market has consistently lagged behind that of London, and country silver, which should be quite as good for making ornaments, is many rupees cheaper than bar silver, and yet the demand is extremely poor. We have known years of prosperity in India, when the up-country demand from Bombay has been for many a day over 100 bars a day. To-day, it is hardly 10—15 bars a day, and frequently not even that. To my mind it is very conclusive proof that the masses are not hoarding in the ordinary sense of the term,

But, the fact remains that a large amount of rupees continue to disappear into hoards up-country. What are these hoards and why are they made? My answer is that they are merely *proceeds of produce* retained on hand, until a suitable opportunity to spend them comes round. The fact is that the articles which the cultivator produces—wheat, cotton, jute, rice, seeds, etc., have been selling at very low prices as compared to articles of daily consumption that are imported, and the cultivator who was used to purchase a certain amount of such articles out of his proceeds of produce, finds he is offered *a much smaller quantity than he used to get before the war*, and naturally refrains from making such extravagant purchases. I know it is currently said that India is doing extremely well by the war, that it is rolling in prosperity, but this again is very superficial talk. We read and hear of people having made fortunes by the war, but forget to stop and think *which* people. It is the commercial and industrial classes—the capitalists large and small —that have immensely profited by the war. The cultivator, who forms the vast majority of the masses of India, *has not so benefited.* Of the five crops mentioned above,—and they form 65 to 70 per cent. of the total export trade of India—only two, wheat and cotton, have been selling higher than they did in July 1914. The others are selling *lower*. Jute was selling then in the neighbourhood of 80 rupees, now it is a good deal under 40. Rice in Rangoon was then selling in the neighbourhood of 300, now it is 200. Seeds show, most of them very important *declines* from the pre-war rates. If the cultivators, as a body, are getting *much less* than they did before the war, and find they have to pay *a great deal more*, more than double in many cases—is it any wonder that they desist from buying, and keep their money in hand for buying at *cheaper* levels, which never come? Hence their so-called hoards, which must go on accumulating until their present things are so worn out or used up that they must perforce buy fresh ones even at current high rates.

I will only instance here Copper Braziers, one of the articles of our imports so commonly wanted in every household for copper utensils, and so fondly prized by the agricultural classes. At present exorbitant rates, they have almost ceased buying these. In pre-war days, copper utensils came after food, and formed generally an important part of his purchases, but we know how difficult it has been to finish off even the stock of Braziers we had here when the war broke out. The cultivator finds he cannot pay present prices out of his present income, and prefers to wait. It necessarily follows that he keeps his money in hand in such form as he has got it. It is asserted that the cultivator wants metal coin, and that is why he takes away and holds rupees, but what else can he hold? People tell us that the very small headway the notes, particularly the 5-rupee and 10-rupee notes, have made among the agricultural population is proof positive that the cultivator will have nothing to do with notes, but is this argument so very conclusive? Have we supplied the cultivator with a currency note that fits in with his average income? Have we given him anything that suits his average daily expenditure? When we bear in mind that very eminent authorities place the average income per head in India at £3 or so per annum, say Rs. $3\frac{3}{4}$ *per month*, it should be clear that masses with an average income actually *lower* than even Rs. 5 *a month* cannot possibly make use of a 5-rupee note. Their average disbursements will hardly amount to an anna or two. Is it not absurd to expect any one of these masses to take a 5-rupee note? How many will there be in his village rich enough to change such a note for him? As a matter of fact even in fairly large sized townships, it costs an appreciable sum of money even to change a 10-rupee note,—appreciable from the point of view of the cultivator, who can do his day's marketing for half an anna. Hence, the cultivator insists on getting rupees, and declines notes,—not because rupees are made of metal, but because they represent a more suitable *unit*.

Our currency authorities have all these years failed to appreciate, and to make the best use of, this fundamental fact that the ryot's income and disbursements were small. They have gaily gone on coining heavily in years of heavy demand for rupees, the profits on coinage being perhaps an additional inducement to the Government. But the nemesis is now upon us. We are at war and however much it may be desired to introduce suitable reforms in our currency, we are deterred by the fear that it might raise unnecessary distrust in the minds of the masses. The Government therefore go upon the axiom that as many rupees must be provided as possible and where more rupees—more silver—cannot be procured —trade must be cut down so that there may be no demand for rupees. We have thus gone on buying silver until by our own action we have raised it to such heights that we are now afraid of the frankeinstein we have ourselves raised. The remedies put into operation by the authorities merely prove how little thought they had given to this side of the question. They are all makeshifts, and do not go to the very source of the trouble. These remedies merely temporarily relieve the strain on our silver reserves, and, as we go on, the strain reappears, and fresh makeshifts have to be brought into operation. For what is the real source of the trouble? It is this war, which makes it impossible for us to get any gold without seriously harming the cause of the Allies, and which makes it impossible for us to get as much silver as we would like owing to competition by the Allies themselves and even neutrals for more silver for small coinage. So long as this war goes on, and probably for a good while after it is over, this scarcity of metal will continue. It is surely the part of sound statesmanship to think out the steps to be taken in all possible contingencies in the case of war. Did our Currency Authorities think it all out before the outbreak of this war? Evidently not, because the fears of scarcity of metal have been daily growing greater for the past two years, and yet, what do we see here? Merely casting about to get more *metal* by hook or by crook. No consideration seems to have been

given to the *real problem*, which was how to do *without* more metal? We only see attempts made to get silver from every direction, even to the extent of preventing private purchases, and, that having failed to keep prices down, we see a deliberate attempt made to force gold out here. But nothing, or at least very little, is being done, to manage to pull on *without* silver or gold. And the various measures taken so far, of which I shall speak more in detail below, have, without appreciably solving our difficulties, tended to harm this country, or the cause of the Allies the furtherance of which should be the paramount consideration, or both. I am not overlooking the fact that the authorities have thought of small notes, but so little importance do they seem to give to such notes to relieve our difficulties that after 12 months of the proposals being first considered we have only just had notes of 1-rupee, in circulation, while the $2\frac{1}{2}$-rupee note is yet to come. It was on 15th December 1916 that the "*Capital*" of Calcutta informed its readers that

> "although when the last currency return was issued silver bullion was under coinage to the extent of nearly 2 crores of rupees, while rupee reserve has declined 5 crores since 7th November, there is not the slightest suggestion that the present rate of absorption will shortly cease. The Government consequently are considering further measures. The suggestion, either to import gold, or to release gold from the Currency Reserve finds little support. Melting would occur, and, while the reserve would be weakened, the circulating currency would not be strengthened. Further rupee coinage is not entirely advisable, even though practicable. The measure, we believe, Government are considering is consequently the wider utilisation of notes."

From what the paper writes in continuation it is clear it was the 1-rupee note that was then under consideration. If it was then the consideration must have been very half-hearted indeed, because

we were still without the small note till 1st December 1917, while a good many of the things described in the above article as undesirable have been tried. I will now take one by one a few of the so-called remedies :—

1. REDUCTION OF SALES OF COUNCIL BILLS.

This was the first step, because there was not sufficient money in the Treasuries to pay them with if sold and the defence is put forward that it is no part of the business of the Government to finance trade. But to say that councils finance trade is really a *perversion of facts.* A good deal of the time of the Chamberlain Commission was wasted on arguments whether Government should or should not finance trade, but as a matter of fact the Government *is not* financing trade. It is *trade* that has been financing the Government in the past. What happened was that Government sold sufficient councils to cover their own Home requirements, and then they went on drawing, as *they* claimed, to finance trade. What they really did was *to intercept the gold* that the trade of India had a right to.

It had to be admitted in the evidence that there was no knowing when India would have a bad season and that it was therefore prudent to sell as many councils—intercept and keep at Home as much gold—as could be managed to provide against a possible bad season coming on. In those pre-war days it was for the benefit of the Secretary of State's Treasury that gold was so intercepted. To-day, it is for the Treasury of the Empire-at-War that gold must be retained at Home. But, in any case, even if it could not be brought out, it should be at least collected and kept at Home to fill the War-chest. (I will remark here that in the term gold, I here include gold credits.) Does the reduction of councils do it? No. It has the effect of reducing our export trade to the amount that could be financed, and so of *reducing* the prices of our staple exports or their quantities, or both. Is this to the advantage of the Empire? Sir William Meyer told the Indian Merchants' Chamber at Bombay in October last that " we were not an absolutely

self-contained entity, but were a part of the great British Empire, and must, so far as may be, frame our policy so as to accord with the interests of the Empire as a whole." I entirely agree, but what are the interests of the Empire as a whole? We are fighting a world-wide war, in which we have to buy hundreds of millions worth of goods for ourselves as well as for our Allies from sources outside the Empire and which we have for the present undertaken to pay for out of our own resources. The only way to do it is to pay gold and as this is not practicable for a very considerable part of our purchases we must do it by our own exports. This looks a very elementary remark, but I am afraid it requires being emphasised even in our Government circles. Now let us see what happens. As we know, England has, perforce, to devote all her energies to war equipment of all kinds. She cannot possibly provide all such equipment, and, *provide in addition* sufficient exports to pay for our purchases outside the Empire. It devolves on the Colonies and on India to export *all* they can, and to sell such exports at the *highest* prices possible, in order to get together the *largest possible* gold *credits* in neutral countries. England can then use such credits for payments outside the Empire, and give us credit in her own books, and ask us to wait till the war is over. But, the *essential* thing is to *create* such credits outside the Empire. The reduction of Councils prevents our doing this by curtailing the finance for our exports and to the extent that it does it. It is a serious injury to the cause of the Allies.

The fact is that the present *system* of handling Councils is vicious. Drawings for all manner of purposes are mixed up, and lead us into false steps. I think it urgently necessary to create

A SEPARATE AUTHORITY TO DEAL WITH COUNCILS FOR CURRENCY PURPOSES.

Their drawings would be automatic, and limited only by the amount of gold or gold credits) tendered in London for rupees on India, or rupees tendered in India for gold on London, without regard to the balances in the hands of the Secretary of State, or

of the Government here. Then only will a policy more consistent with the Gold Exchange Standard that we have practically adopted in this country become possible. The recent action of the authorities in raising the Exchange to 1/5 would almost seem to show that they either do not understand what the standard is that India has adopted, or that they wish to throw it over at the first opportunity. I shall have to say more about this later on. Another thing done by the authorities to increase our currency resources was selling gold bullion. This was a course warmly advocated by certain bullion brokers and dealers on the Bombay side and the authorities lent their ear to it, again proving that the remedies adopted were not well thought out in advance but were just what came uppermost to their minds at the moment. For a little thought would have shown our currency authorities that the people most likely to invest in gold wou'd be—not the small cultivator, but the well-to-do middle classes, the commercial community and the capitalist. They could have seen that our difficulty was not to get back *currency* (notes or cheques). but metal rupees, and that the gold would be going to the classes who *did not hold* any large quantities of metal rupees. It was the masses that held the rupees and if their individual incomes were considered they were most unlikely to make any appreciable purchases of gold, and that consequently there was very little likelihood of tempting any quantity of metal rupees back into the Treasuries by selling gold. Unfortunately gold was sold and the results in gathering in rupee coins were, as ought to have been foreseen, most disappointing. But the mischief was done. An important reserve of gold was frittered away never to come back and that at a time when the Bank of England is straining every nerve to strengthen the Gold Reserves of the Empire. So much for the help we have been rendering to the Home country as an integral part of the Empire.

The attempt is again being made to induce the authorities to part with their gold. They are told that they must ultimately pay

out sovereigns when the season advances. Then why not sell gold now at rates much higher than Rs. 15 to a sovereign and make money? I hope the authorities now fully appreciate how important it is for the Empire to hold tightly on to its present stock of gold, of which the stock in the currency reserve to-day forms no despicable portion. I hope the mistake of last year will not be repeated and our Gold Reserves will not be again frittered away. This War promises to be still a long one, and the Empire will want every ounce of gold it has to fight it to a finish. Another make-shift tried by the authorities, again at the instance of so-called experts, was the

3. Issue of the last loan in the busy season.

These experts told the authorities and they did it apparently successfully enough to convince them,—even after the fiasco of the sales of gold—that the Loan proceeds would rake in rupees into the Treasury. We therefore threw over all precedents and floated the Loan in the tight-money period in April instead of waiting till the easy-money period in July-August. The Loan, energetically pushed as it was, has been an immense success, but has not brought in any large amount of rupees. This result also ought to have been foreseen, if, as pointed out above, it had been borne in mind that it was the small cultivator that had the coin, and he was the last man to subscribe to such Loans, and that this was not the best way to reach him. Another thing tried by the authorities was

4. Prohibition of purchases of silver on private account in London.

It was thought that this led to competition with the Government purchases and made it much more difficult for the latter to secure supplies of silver. The immediate results we all know. It is well known that speculation in any market tends to prevent unnecessarily high prices by the shorts coming in as sellers as soon as the level seems very tempting. This regulating influence

of the shorts was eliminated by the prohibition ordinance but, as it had failed to be accompanied by any indication of the resolve of Government *not to pay* more than a certain price, the effect was just the contrary of what the authorities no doubt looked for. In a very short space of time silver jumped up to 55*d*. Then only did it seem to have dawned on the authorities that the way to control the price of silver was not by controlling the action of the Indian importer or speculator, but by forcing the hand of *the original seller*. The Indian purchases cover more than 50 per cent. of the world's silver and if the Government of India threatened to stand out and refused to buy except at a certain price, the market would collapse. Merchants know well enough that any consumer of even a smaller proportion than 50 per cent. of the total production of any commodity has the market for that commodity at his mercy, provided he knows how to make his power effective. Instead, we see such an important buyer as the Government of India absolutely at the mercy of the seller, because they *keep on* buying at any price the seller asks.

We have not been informed of the negotiations which ultimately led to the arrangement by which the American Government buys 100 million ounces of silver and gives 60 millions of it to India, but the way silver prices collapsed from 55*d*. would seem to show that the attitude taken up by the American Government in the beginning of these negotiations was what really made silver holders throw over their holdings. What is now wanted is that we should manage to *do without* more silver than these 60 million ounces. As during the past two years we have taken over 100 millions, the result, if only our authorities stand firm, will be to create a floating surplus of silver, which will weigh on the market, and bring silver prices further down. But, to do it successfully, we want the alternative currency—the 1-rupee note—fairly well established, and hence the delay in their introduction is all the more to be regretted.

The next thing done to strengthen our currency resources was

5. ORDINANCE TO TAKE OVER ALL IMPORTS OF GOLD AT CERTAIN RATES.

This in itself was a confession that the previous frittering away of our gold stocks was a mistake, because, otherwise, why should we attempt to prevent gold going directly into the market. This ordinance has been very useful as it has enabled us to get together a very considerable stock of gold in our Paper Currency reserves, where I hope it will remain. But even this has only improved the *backing to our note issue* and has not added to our supplies of *rupees*, which is the real difficulty.

The next step tried was the most extraordinary of all. It was

6. RAISING OF THE EXCHANGE TO 1/5.

Even this could not *add* to our supplies of currency. That is evident. What this measure would do and no doubt this is what was intended was to make the rupee equivalent of the gold amounts due to us smaller and in that way *reduce* the amount of currency the Government had to find here. This looked quite simple, but no thought seems to have been given to the great iniquity of such a step, as it tends to increase the burden of taxation on the cultivating classes and that in a way that places these classes at the mercy of the capitalist classes. It is putting money into the pockets of the rich at the expense of the poor. For this is what happens—

Supposing we get £1 for a certain quantity of produce from buyers overseas, it means Rs. 15 @ 1/4, but only Rs. 14—2 @ 1/5. Now, the overseas buyer is not going to pay us more than £1 just because the Government here has thought fit to raise the rate of Exchange. Let us assume that the export merchant's commission and charges come to 5 per cent. He will offer to the producer 14—4 in the first case, and only about 13—8½ in the second. A good deal of loose talk has been indulged in in this connection and it has been said that the *export trade* will suffer. The apologists of the Government have translated this as the *export merchant*, and it has been easy for them to show that the merchant will be benefited by

the depression in the price of produce that this rise in Exchange must tend to bring about. But at whose expense—the ryots It is just this,—the putting of the ryot at the mercy of the merchant that makes the iniquity of the situation all the greater. The Government's function should be to protect the weak and the poor against undue exploitation by the strong and the rich. On the contrary, we find here a measure which makes the ryot

(1) find more produce to pay his dues to the Government;
(2) find more produce to pay the railways for transport of his produce;
(3) find more produce to pay the dues of his sowcar; and
(4) find the extra produce which ultimately gives a larger sterling equivalent to people remitting home their profits made in India.

As the bulk of the trade of the country depends directly or indirectly on produce and as merchants take care to allow for all charges in arriving at the price they pay to the producer the result is that all charges fixed in rupees—stamps, telegrams, etc.—ultimately take a larger toll from the producer. Doing this at a time when the restrictions on exports imposed by the war in the shape of trading with the enemy ordinances and freight have already hit the producer hard, as I already show earlier in this paper, the result will be that the cultivator will find the margin over his usual payments to the Government, the sowcar, etc., become daily smaller, while on the other hand the things that he used to buy with this margin in normal times get daily higher and higher in price and more and more beyond his reach. This can only breed increasing discontent among the masses. Is it not sound statesmanship to avoid measures tending in this direction?

I know my talk of increasing discontent among the masses will be called an exaggeration by the apologists of the Government. They point to the big Bank balances in the Presidency towns and the booming share markets, but, are *these* the signs by which to read whether the masses are well or ill off? Why not cast up the average

budget of the Jute producer in Bengal, or the Rice producer in Burma, etc., and see whether his margin of well-being has improved or is worse. If it is worse,—I am afraid *much* worse—than in normal years, how can his lot be a contented one? Is it the right time to add to his burden?

What is most curious about this raising of the Exchange to 1/5 is that, while on one hand the apologists for the Government claim that such raising of the rate was justified because 1/5 is now the gold point the authorities themselves, on the other hand, justify it on entirely different ground, *viz.*:— that the raising of the rate to 1/5 was due to the rise in the *price of silver*, and that the rates for Council Bills would *continue to be* based on the prices that the Secretary of State had to pay for silver. Those who defend the action with reference to the GOLD POINT have at least this in their favour, that the action according to them is consistent with the possession of a Gold Standard by India. I will not argue the point further here as a far higher authority has insisted that 1/5 *was not* the gold point, and has made the Government of India pay only Rs. 14-8 per sovereign so long as the Exchange was kept up at 1/5. A most anomalous position has been created.

The Government pays only 14—2 per £ by councils @ 1/5, and can pay only 14—8 per sovereign landed on our shores but must consider it as 15—0 in internal circulation, while this same sovereign sells @ Rs. 17—in the bazars to-day. The necessities of the situation may perhaps make the authorities helpless as regards the selling price of the sovereign in the bazars, but they would have done well, as soon as the Bank of England insisted on their paying only 14—8 here so long as they left Exchange @ 1/5, to *reduce the rate* of Exchange and make it more consistent with paying 15 rupees to the £ on imported sovereigns. They have persisted in keeping the rate up, with what object it is for them to say. Sir William Meyer has tried to explain this away by talk of an internal and an international exchange, the

former being between gold and 154 grains of fine silver. Nobody has cared to ask what *silver* has to do with it at all? Are we not on a gold standard? Is not the rupee a mere token and not a full-value coin? Has not the Chamberlain Commission said over and over again that the rupee was only a token? I have already said that the authorities do not clearly appreciate what the Gold Exchange Standard is and what our unit of currency is. If our Exchange is to rise in proportion to the rise in the price of silver, in what way are we different from China, a silver standard country? What is our basis unit? It *is not* 154 grains of fine silver, but 16*d*. worth of fine gold. Ever since the currency changes of 1893-1900, the rupee is merely a note for 16*d*. printed on strips of silver and the value of the material on which such note is printed has nothing to do with its value in the circulation. By reinstating the rupee,—because that is what it means if the price of *silver* is to control the fluctuations of Exchange the Government has really thrown overboard the Gold Exchange Standard, and nullified the efforts and sacrifices involved in getting it in the past twenty years. Bengal was most prominent in the agitation which ultimately gave us the Gold Standard, and it has been a great surprise and disappointment to the supporters of the Gold Standard in this country that there should have been so little protest against this revolutionary action of the authorities. The nemesis for this very ill-considered action will face the authorities one day in the not distant future. If they now claim that the cultivator should only get 14 or 13 rupees per £ because it can buy only so much silver a day will come when the cultivator will claim to get 20 or 22 rupees to the £ because that much silver can then be bought for a sovereign. With what consistency can the authorities then refuse such a demand?

It has been argued that the Currency Commission never thought of the Exchange going beyond 1/4 as conditions like the present had not then even been dreamt of. But they most certainly understood what a Gold Exchang Standard implied that

they were giving to India. In their report there are two distinct statements pointing to the need of *preventing the rate going above* 1/4. Sir William Meyer brushes aside these in his reply to the Indian Merchants' Chamber, but I will note them again here and leave it to the members of this conference to judge :—

In para. 30 they speak of the Indian Branch of the Gold Standard Reserve as needed to *prevent the possibility of the Exchange value of the Rupee going to a premium over* 1/4 through a failure in the supply of rupees. Sir William Meyer would make out that they thought this consideration so unimportant that they recommended the abolition of this Indian Branch of the Reserve by transferring the rupees to the paper currency reserve. The considerations that impelled the Commission are different as can be seen from their Report, but we will let that pass.

In para. 21, commenting on Act 22 of 1899, they expressly call it a statutory means of *preventing the rupee from rising* above *the par of 1/4.* If the Exchange ought to have gone up with rises in silver, why did the Commission make such a meaningless comment? But it was not meaningless. Gold Exchange Standards were in operation for years before 1913 in other countries and the difficulty we are now faced with here, *viz.*, the bullion value of the token coin having gone beyond the value assigned to it in the currency, *had arisen* in those countries and such difficulty and the solution of it that had been adopted cannot fail to have been known to the various financial experts on the Commission. But because they did not suggest any remedies on such a situation arising as the rise in silver beyond 43*d.* was such a distant eventuality then, it is but poor argument to disregard their above undoubtedly carefully weighed statements. But this is not all. It is not as if this conclusion of the Commission was merely a matter of their own opinion. The official witnesses before the Commission had themselves correctly understood the Gold Exchange Standard as it should be understood. They knew that it meant keeping the Exchange rate with the token currency

between the gold points. They knew that this implied *preventing* its going above the *upper* gold point. As the authorities have tried to make out that this was not the case and as apologists for them in the public press have insisted that there was no undertaking to prevent the rate going beyond the upper gold point, I will cite here a part of the official evidence before the Chamberlain Commission.

Sir Lionel Abrahams in replying to question 693 said :—" If one is to maintain the parity of the rupee and the sovereign, one has to prevent the rupee from going down and *one also has to prevent the rupee from going up.*"

Mr. F. W. Newmarch evidently insisted on the same thing as, in question 1376, this is what the Chairman says to him :—" You say in para. 25 of Appendix VII that it is *as important* to *keep* the *Exchange from rising above the gold point* as to prevent it from falling melow the gold point " and the Chairman adds :—" I think Mr. Abrahams told us the *same thing.*"

As the two statements above might be called only general statements applying to matters immediately under consideration, I will now turn to Mr. H. F. Howard, another official witness, to show how he understood the Gold Exchange Standard. In question 8349 he was asked :—" When you say the scheme is to keep the local currency near a fixed par of gold, do you mean a faction above or a fraction below par ? "

Now, if Mr. Howard had understood our currency system to be as the authorities now claim to make it out, *viz.*, that their obligation was only to prevent the rate going below the par agreed upon, and it did not matter how much above par it went, as they had given no undertaking in that direction, it was easy for Mr. Howard to have replied that he was concerned only with the lower side of the par. But, *he did not say* anything of the sort. His reply was :—

" I mean *within the gold point on one side or the other.*"

Some apologists of the Government put the blame on the system being a " GOLD EXCHANGE STANDARD " instead of a " GOLD STANDARD " and thereby want to imply that the former means liberty

to move the par up and down as it might suit the authorities. The official witnesses had no such notions. They knew what our standard really was. Thus while the authorities now contend that the silver rupee is our standard coin and the price of the sovereign must move up and down with the price of silver, Mr. Howard (c f. Question 8399) was emphatic that *gold was now the standard metal of the Indian Currency.* A great many questions might be here cited to show that it was thoroughly understood that the rate would move *only within the gold points*, notwithstanding our being on a Gold Exchange Standard. However, we find one of these witnesses—the one perhaps who had been most closely connected with all our Currency changes—Sir Lionel Abrahams, claiming that our system was even *more* than a pure Gold Exchange Standard and that " it was on its way to becoming a combination of a Gold Exchange System, and a Gold Currency System " (c f. Question 623) He even goes further in Question 933, and says :—" Actually I should say that *we have a gold currency*, only the people of India do not use it very freely." He also says in reply to a query by Sir James Begbie (Question 485)—Scientifically " I would say that when you have a par of Exchange between two countries, *with an upper gold point* and a lower gold point, the natural thing is to carry on your ordinarinary transactions in the ordinary way so long as your Exchange is *between that upper gold point and that lower gold point.*"

I think I have quoted sufficient official evidence to show that what these official witnesses understood our system to be was that it was practically a Gold Standard, and that there *was* an *upper* and a lower limit to the Exchange fluctuations, *i.e.*, that the rates would fluctuate between Gold Points. If the authorities *were* willing to undertake anything, it was to prevent the Exchange going beyond *the upper* Gold Point, and that object had been served by agreeing to sell bills to an *unlimited amount* at 1/4⅛. It was rather about the *lower* Gold Point, the point at which they should sell bills *on London* for an unlimited amount, that they felt at all diffident.

So much for the hollowness of the defence of their action in raising the rate to Rs. 1/5. As I say above, this was the latest of their various makeshifts, and while it has not added anything to the supply of rupees, which is the crux of all our troubles, it has added greatly to the burden of the Indian producer, and at the same time driven a coach and four through our laboriously built up Gold Exchange Standard. Now for the remedies.

The principal remedy arises out of the consideration of the present real nature of the rupee. Before 1893 the rupee was the basic coin of our currency system; it was the silver standard, and was current at its intrinsic value in silver. Since the momentous changes of that and subsequent years, the rupee is no longer the basic coin. Our coin is a unit worth 16*d*. in Gold. It has passed current @ 16*d*. all these years, when its intrinsic value was only 9*d*. or 10*d*. only because the public believed in the power of the Government to keep its value at 16*d*. It was practically a currency note printed on silver. If this basic fact is properly grasped, the remedies follow as a matter of course. Let us assume for a moment that for some reason paper becomes so very dear that it could not be used for printing notes. We should be then using some other and cheaper material, say leather. All talk of making loss on coinage of rupees is due to not grasping this very elementary principle.

The real remedy would be—to call in the present issue, and issue fresh rupees of (*a*) lighter weight or (*b*) lighter value. In other words, we should provide a fresh coin of either (*a*) a smaller size, and containing therefore less fine silver, or, (*b*) a new coin of the same size and weight but of lower fineness. This may be called a revolutionary change, but other countries, faced with the same difficulties have done it, and we have their experience to guide us.

Personally, I think further coinage of rupees of any kind extremely harmful, and even dangerous for the future stability of our currency system. I favour the One-Rupee Note. As I say above, the present rupee is nothing more than a note

passing current only by the authority of the Government at its back. Only, it is printed on silver. Why this extravagance, I ask? Why print it on silver at all? Why not print it on paper which is good enough for notes of much higher value? There will be a distinct and a very important advantage. The constitution of the Gold Standard Reserve depends on the *profits* of coinage, but at present prices for silver it is only a penny or so that can go into the Reserve, while by issuing ordinary paper notes we can put *all the 16d.* into the Reserves. (It will be the Paper Currency Reserve.)

It has been argued that the masses do not like and will not take to currency notes and the comparatively small circulation of the 5-rupee notes is cited as conclusive evidence. As I show above, the real reason was that even a 5-rupee note was *too big* for the great masses of the population. Only the middle and lower middle class can conveniently use it. It will be instructive to see how these classes appreciate the convenience of the notes as substitutes for metal rupees. In this connection, we find a very useful table given in para 27th of the report of the Controller of Currency for 1916-17 in which the number of notes of each denomination in circulation on 31st December of each year for each 10,000 of the population is given. We find there that the circulation compares as below :—

	1914	1916	difference		per cent.
5 Rs. Note	87	189	increase	117	,, ,,
10 ,, ,,	416	673½	,,	61	,, ,,
50 ,, ,,	8·8	14	,,	60	,, ,,
100 ,, ,,	42	76	,,	80	,, ,,
500 ,, ,,	1·4	1·4	,,	none	,, ,,
1,000 ,, ,,	3	2·9	*decrease*	3	,, ,,

These figures are for all India. Are they not very eloquent of the need of an unit that suits the small size of the disbursements of even the lower and middle classes? As can be seen the increase in circulation of the 5-rupee note has been far and away greater than

that of any other note. Is it not at least some evidence that a still smaller unit was likely to be as popular?

The above figures are for *all* India. If we go deeper, we find the figures even more interesting. Thus, the circulation of the 5-rupee note in the important centres compares as below :—

	1914	1916	difference		per cent.
Bombay	162	419	increase	158	,, ,,
Karachi	100	317	,,	217	,, ,,
Calcutta	30	47	,,	56	,, ,,
Madras	119	215	,,	81	,, ,,
Rangoon	75	134	,,	79	,, ,,
Lahore	127	279	,,	120	,, ,,
Cawnpore	26	27	..	4	.. ..

If we only bear in mind that we see this expansion in the note circulation at a time when the masses were supposed to be full of fear and distrust as a consequence of this war, we can understand the hollowness of the fears expressed that the new 1-rupee notes will create or increase distrust. As I am addressing this to a Conference in Calcutta, may I be allowed to ask those present why Calcutta makes such a poor show in the use of small notes? Have not your Jute magnates a good deal to plead guilty to in this matter? In Bombay, they pay wages by notes as much as possible. Why was this not tried in Calcutta long ago? We know that when it was tried recently very little difficulty was found.

When Sir William Meyer met the representatives of the Bengal Chamber of Commerce in Calcutta in the middle of August last, Sir Archie Birkmyre told him that the Jute Mills were introducing the 5-rupee notes in the payment of wages and Mr. Mansell confirmed this for the mills in which he was interested and said the system had been in operation for about 4 or 5 months and *the workers accepted the notes quite willingly.* This last is very important testimony in refutation of the doctrine that the illiterate classes will not take notes. We may well ask Calcutta why no serious attempt was made to use the small notes years ago.

Cannot the Calcutta people see that this is a direction in which we should seek for the true solution of our currency difficulties? Because, unless we can find some way to do without more coinage of rupees, our currency situation will continue to present very serious difficulties *both* when silver is very high, and when it is very low.

The figures for Cawnpore above given are the most disappointing. Can it possibly be due to the deliberate policy of forcing sovereigns into circulation of which Sir Alexander McRobert spoke before the Chamberlain Commission or is it due to the lower middle class being unimportant in the Cawnpore district? The Upper India Chamber of Commerce might well study this point as it is extremely important that India should not be drawing Gold to any important extent for some years even after this war is over.

The Lahore figures are the most interesting to my mind. The Punjab wheat cultivator, we are told, is very fond of gold and wants sovereigns and failing them rupees. Government has given them gold in the past two years and thus allowed our gold resources to be frittered away, quite oblivious of the fact that it was the premium on the sovereign that they are there after, as it makes the prices realised so many per cent. higher in rupees. We find that even in Lahore the increase in the circulation of the 5-rupee note is very much greater than in Madras or Rangoon and more than double that of Calcutta.

It is to my mind very patent that notes go freely wherever they have been given a fair chance. The authorities up to now do not seem to have attached sufficient importance to the spread of the use of notes, otherwise I cannot understand the cheese-paring policy adopted in providing cashing centres. The cost of providing these is given too much importance. The cost to the country of having to coin a large amount of token money is not given sufficient weight. The former might mean lakhs. The latter will mean a loss of crores. I have spoken of giving the notes a fair chance. What I mean is that means should be taken to avoid their going to a discount, even in important business or industrial centres like Ahmedabad, as they

now do. The discount on the 5-rupee and 10-rupee note that the Marwari shroff in the bazars insists on is an appreciable loss to the poorer classes and therefore to that extent *an appreciable impediment to* their more freely taking the notes. We have also the inertia on the part of large employers of which we saw evidence in Calcutta to contend against. We saw that they did not try to pay wages in small notes until very recently. Cannot the authorities make them change their ways there and in other industrial centres too? The procedure might be—

A census should be taken of all industrial concerns employing say over 50 people to find out how they pay their wages. It will be easy as the inspectors of factories will have the list ready and have only to send out a circular letter.

Next map out the districts paying only in coin and not in notes. Let Government instruct such factories to pay only in notes of 5 and 10 rupees to all its labour as far as the notes can be used. *i.e.*, the 5-rupee note to be used for all payments over Rs. 5, and both the 5-rupee and 10-rupee for all payments over Rs. 10. This is nothing revolutionary. It is done by most mills in Bombay, and is, I understand, the practice even in a new place in the jungle like Sakchi.

Let Government undertake to provide cashing facilities in the neighbourhood of such factories. This will appear a large order, but it is not. At present a factory paying Rs. 10,000 draws away 10,000 coins to pay wages. Hereafter it will only get notes with a small proportion say 10 per cent. in coin to pay odd sums. The Government will at the same time provide the 10,000 (or 9,000) coins *in its cashing offices near the factory.* The cashing should, in new areas, be absolutely free for Rs. 5 at a time. The cost to Government will only be transport charges, and the salary and rent of the cashing office. A mere trifle in fact, if, at the end of the year, we can get the labour in that particular area to take to notes and to use them freely, as they do in Bombay. I would suggest for

such experiment, Ahmedabad, Nagpore and Cawnpore to begin with.

A similar experiment is urgently called for in the important interior marts of cotton. At present many of these only know coin, and we have it retailed to us that the cultivator will never take notes. The authorities swallow this dictum of so-called authorities on the subject of the masses without stopping to inquire *why* the cultivators' cousins who flock to Bombay in thousands for work in our factories and docks accept notes *without any difficulty.* The real difficulty is that of want of facilities for free or at least cheap encashment, and it will, in the long run, pay the authorities to go to the expense of providing such facilities as widely as possible. It does not speak much for the enterprise of our Currency Department that coins should still be the *sole* medium of exchange at many important emporiums of trade up-country. Increasing the number of circles or universalising notes is not everything. Cashing facilities should be provided *on the spot* at each such centre one after another until notes get fairly well established there. What *can* be achieved with a little enterprise is described in para 24 of the report of the Controller of Currency for 1915-16, and reflects great credit on the Agent of the Bank of Madras at Guntur. We read that "early in the year the Marwaries endeavoured to work up a business in encashing notes in the bazar at a *discount before* and *after* Bank hours, but the branch Agent secured the temporary use of a godown in the bazar, and during *the early mornings* and *late evenings* he took for several days whole rupees to this godown, and issued them *freely* in exchange for notes. The Agent's action in thus opening a temporary note exchange in the bazar *outside* Bank hours *stopped the Marwaries' little game,* and notes now *circulate freely* in the bazar *at par.* Business transactions between the merchants of Guntur are *now settled in notes* instead of *in rupees as formerly.*" Can we not hope for similar enterprise elsewhere with similarly promising results? If the drain on our stock of metal rupees could be at all reduced, it will mean a saving of crores

of rupees to the country by avoiding the necessity for further purchases of silver at present absurd levels, compared to which the expense of providing encashment without discount in say 50 more centres is a bagatelle.

People who sell and buy gold and silver and who therefore think they know all about currency have strongly opposed in the public press my long and insistent preaching of a larger use of small notes. Their arguments are :—

1. That the note issue was getting unwieldy and was leading to inflation.
2. That it meant inconvertibility.
3. That forcing such a note on the masses was dangerous in the present state of political feeling

I will take the last point first. I have already said that small notes will conform more to the small disbursements of the masses, and will be readily taken. India is not very different from China where the one-dollar note is freely taken, nor from Japan of 20 years ago, when, as now, the one-yen note was very freely taken. It will perhaps be news to most people that although Japan is a Gold Standard country one never or hardly ever sees a single gold coin in circulation in their bazars. India is again not very different from the Straits where in fact the labour is largely Indian, and where the note goes freely. We know the note has been introduced successfully in Ceylon.

Perhaps the most impressive instance of how easily and effectively notes can be substituted for coin where the authorities want to do it is to be found in Egypt. We know that the Indian cultivator is most certainly more docile and less fanatic than the Egyptian. We know Egypt is in the very theatre of war, and the populace, mainly Mahomedan, has some grievance in our having to be at war with Turkey. And yet the note has been introduced there with astonishing rapidity since the outbreak of the war. I will

quote here from the Note of the Acting Financial Adviser on the Budget of 1917 (Journal Officiel of 12th April 1917)—

> "The circulation of the notes of the National Bank of Egypt, which *under the régime of forced currency*, have replaced gold as the circulating medium of the country, has continued to expand."

Then he gives the figures showing a note circulation of

1,835,000 £E on 31st July 1914 raised to
20,807,000 „ 30th November 1916

or twelve times as much as it was before the war, when it was, as we can see, insignificant. What an economy of gold it all means? Does not the Bank of England wonder why *we* cannot do it here and feel so helpless unless we have more metal for coining?

Lower down in the same Note (page 7) the Financial Adviser says—

> "The amount of notes retained in the hands of the public has been more than sufficient for any permanent expansion in the requirements for ordinary circulating purposes, and *indicates that the notes so retained represent the profits of the people from their crops*, and are *hoarded in* the same manner as gold was hoarded before."

This independent expert evidence of what is happening in Egypt strongly corroborates the opinion I advance, that in India rupees are similarly hoarded, and if we provide the masses with *notes* of one-rupee instead of the *coin*, the masses here will put the notes in their hoards without much difficulty.

As for inconvertibility, what I advocate is making the 1-rupee note a part of the present total issue, and therefore backed by the same backing as the other notes. That the total issue could be expanded has been clearly shown by the fact that it has been expanded from about 65 crores in 1914 to 114 crores now. If the rupee notes had been issued as a part of the extra 49 crores so issued, say for 10 crores, then 10 crores of coin would have remained in the

Treasuries, and to that extent *strengthened* the backing of *all* the notes.

As for inflation, this is also an ignorant cry. We ought to analyse the inflation and see *which* prices are inflated. As I show above, the prices of our staples, wheat, rice, seeds. jute or cotton,—have not been inflated in anything like the proportion of imported goods, and it would be rank ignorance to ascribe the high prices of *imported* goods to any inflation of currency. We cannot control the prices of these things and only have to pay what is asked. Cotton is our only staple even somewhat inflated, and that also is due, not to any inflation in our own currency, but to the very high prices asked by Lancashire and Japan for imported piece-goods, which enable our own mills to pay higher for their local raw material. Cotton is also fortunate in the fact that its chief buyers were the Japanese, an Allied nation.

I have begun this section with the heading Remedies but have so far spoken of only one—the one-rupee note—because it is the most important, and the other steps for alleviating our currency shortage are subsidiary to, or spring from it. Among these are

(*a*) placing a maximum price on silver beyond which the Indian Government will refuse to buy. (This it can only do if it feels itself sufficiently strong by the reception given to the small Note.)

(*b*) scaling down the fineness of the rupee as soon as silver is below 40d. (Then, if it is declared that certain issues of rupees will cease to be legal tender after a certain date, such proscribed coins will rapidly flow back into the Treasuries.) The scaling down of the fractions should be undertaken even now.

(*c*) making some serious attempt to prevent the authority of the Government being flouted as it is by sovereigns being openly bought and sold for melting purposes. A little inquiry into the accounts of the dealers in sovereigns might do a lot of good.

We might here take a leaf out of Egypt's book, and make Hall-marking of gold ornaments compulsory. This will give valuable indication of the amount of gold still going into ornaments. A consumption tax of some sort would also be in order, as not only is it an useless luxury, but a luxury dangerous to the Empire in these difficult times.

(*d*) stopping all issues of gold from the Currency Reserves. They are not wanted for currency as such but for extraneous profits by sale at a premium in the bazars. All gold should be absolutely retained in the Treasuries as the final and the strongest kind of backing to our notes, if we really still have the Gold Standard in this country.

(*e*) stopping all wholesale issues of rupees (*i.e.*, instead of letting the manufacturer or the merchant take away say 1,00,000 rupee coins to pay for wages or produce, Government should issue small notes to the manufacturer or the merchant, and *itself* take the 1,00,000 to a suitable cashing office in the centre required. This seems useless reduplication, but it is not.)

(*f*) making our bankers understand that it is highly important to develop the use of the cheque in the native mercantile community. To me it seems a most extraordinary state of things that even in a great city like Bombay the native bazars do not use the cheque in their enormous daily payments *to each other*. It is all notes, or mainly notes. Why should this continue? The bazars make and receive their payments after 4 P.M., *i.e.*, *after* the European Banking hour. Cannot some one show the enterprise of the Guntur Agent of the Bank of Madras above referred to by having branches at suitable centres in the native bazars where banking will be carried on during native hours of business, and in native ways, and in a native

language? Is it not strange that we never expect an Englishman to do his banking in French and yet expect the native business community to do their banking in English? This problem of language is not so difficult as it seems. The Eastern Exchange Banks have solved it through the system of compradores in a much more difficult language like the Chinese. The spread of the cheque is extremely important, because the great expansion of our currency note issue, the consequences of which are so much dreaded by so-called experts is really due to larger amounts having to be dealt with in all transactions to-day, and necessitating larger clearing house figures, which, where the native bazar are concerned, means larger turn-over, not of cheques but of Notes.

(*g*) taking steps to provide the market with a form of investment for their floating cash, *i.e.*, Treasury Bills, which I suggested being issued here in a letter to the *Times of India* early in August last. I congratulate the authorities on this step, but like many other of their steps in currency matters, it has been half-hearted and hesitating. If properly handled these bills would replace notes in the hands of the bazar, but the authorities have been afraid to issue 4-months bills. They do not yet realise that in such matters the more confidence the authorities show in their own resources, the more confidence will the public have in them. Their issuing 6-months bills means taking them over the entire busy period. The native sowcars who mainly finance our movements of produce would be foolish indeed if they allowed their resources to be locked up when most wanted. For locked up they would be when badly wanted, unless we

(*h*) provide some means of putting the ultimate reserves of

> the country in touch with the market. One of the points most carefully gone into before the Currency Commission was the need of loans from the Government balances or the Paper Currency Reserve to the market at times of stringency. I think it high time that Government should declare that such loans will be available @ 6 per cent. on suitable security. It might be argued that money is so easy now that nobody will want to borrow. All the better. Where is the harm in the announcement? What is essential is that there should be confidence in the minds of the market that any serious stringency will not come. As many witnesses before the Commission testified the amount that would be required was thought to be comparatively small. The knowledge that such help was available when wanted was the thing.

I know it will be argued that Government is busy with this war, and that such an important innovation is not to be thought of. I, on the contrary, urge that *it is a war measure that I am recommending*, and as such one that should be urgently given effect to. With crores of its own short dated paper in the market, Government should not allow the least chance of its being refused discount, or the result will be disastrous to all our war finance. Enquiries made by me elicited from one banking quarter the response that the Treasury Bills would, as a matter of course, be discounted, and probably even *under* Bank Rate. From another quarter the reply was that we cannot count upon discounting them. They will be available only for Loans like other Government paper, at a margin, and if at that time the funds were available. Sir Shapoorji Broacha told the Chamberlain Commission (Q. 862) that he could not get an advance on a mere lakh of rupee paper at one time. Let the authorities be warned in time and take suitable steps so that discount of their Treasury Bills may under no circumstances be refused. The Banks are not to blame, as they cannot lend more

than the funds they may dispose of. It is for the authorities to assure them that they will back the banks if needed. This implies another important step, *viz.*

(*j*) making the limit of the fiduciary portion of the Paper Currency Reserve elastic instead of leaving it rigid as at present.* Part of such fiduciary investment could then be in temporary advances to the market.

From what I say under *f* it will be seen that this also is an essential *war* measure which should be given effect to *now*. It may be interesting to again quote from Egyptian practice in this connection. (Journal Official, April 1917, p. 8)

"Until last September the statutory minimum of one-half reserve in gold was maintained in cover of the issue, but in view of the large expansion anticipated in the winter, and of *the inexpediency of causing further drains of gold from the reserves of the Bank of England in existing circumstances*, the National Bank was authorised to keep a lower proportion than one-half in gold. The gold holding now amounts to £E5,500,000 against an issue of 20 millions, *the balance being represented by* British and Egyptian *Treasury Bills* and other first-class securities." (This proportion might be carefully thought over by our Currency Authorities, who seem to think it very bold to hold even a good deal smaller proportion in securities. They do not seem to be afraid in Egypt of a percentage as high as 75 although the free use of notes is so new there, and the population much more fanatic and excitable than we have here.)

The next thing I think important for the safety of our edifice is

(*k*) a freer issue of Councils to meet the demands of trade.

The connection of this measure with Currency matters seems remote at first sight. But a little consideration will show that it is not so remote. As gold cannot be imported to pay for our exports, the

Government must, in its own interests, supply a substitute in the shape of currency here against payment to it in Sterling money in London. This is essential to help the crops to move promptly. If they are not so moved and money is allowed to be locked up in them, we shall be providing material for a serious stringency on anything going wrong and, in the present highly-strung condition of the public mind on account of the war, it will be but a short step from stringency to a panic and people will scramble after silver and gold coin, an eventuality our currency authorities should do their utmost to ward off. We have the machinery for such larger Councils in the Gold Notes Act, which allows issue of notes here against gold in London. Only, in the present case, it will not be metal, but a gold credit at the Bank of England, to pay for gold or silver as and when available to us. What Egypt has done in this direction is again instructive. The Financial Adviser says on this subject (p. 8)

> "As notes have been issued only in response to the legitimate demands of trade and their equivalent has *been automatically deposited in the form of liquid security in London*, inflation has been entirely absent, and the *Exchange with London has been maintained at or close to par.*"

This last remark, I hope, will be carefully noted by our authorities here.

I know the defence has been put forward that the restriction of Councils does not restrict exports, as they are already restricted by the amount of freight available, but if there is any substance in such defence, why don't the authorities allow sufficient Councils to finance exports to the extent of such freight as is there? Why do they go out of their way to put this further restriction by reduced sale of Councils? If the freight is not there, merchants cannot ship, and will not have the bills to offer to the banks, and the banks will not offer for more Councils than they have bills for? In these days of a 5 per cent. Bank rate at Home, he will be a very foolish

Banker that will needlessly get money out here. And I again repeat that this restriction of Councils, to the extent that it hampers our exports, is a serious disservice to the Empire and the Allies.

This paper is already longer than I had thought of making it, so I will now close with the hope that the considerations advanced will be found at least worthy of further study and unbiassed consideration by the authorities and interests concerned with a view to suitable action.

B. F. MADAN.

INDUSTRIAL DEVELOPMENT OF SOUTH INDIA.

(Paper read at the Bengal Economic Conference.)

By South India, for the purpose of this paper, must be understood the district to the south of the city of Madras. It includes the richest and most populous part of the Madras Presidency and the thriving states of Cochin and Travancore. If we study this country from the point of view of the geographical background to its industrial life, we observe that it is a tropical country destitute of coal, that it has no navigable rivers, that it is divided into two unequal portions by high mountains which are broken by the Palghat Gap, but which at other places are very difficult to cross, being, in some parts, still unexplored; that on the eastern side the coast presents no natural harbours, but on the west some natural but undeveloped ports. It cannot be asserted that these conditions are favourable in themselves to rapid industrial progress; nor is the condition greatly assisted by a high development of artificial means of transport. There exists, besides the railway lines which connect the city of Madras with Calcutta, Bombay and northern India, one railway which passes through the Palghat Gap and links the western coast with the provincial capital. There is also what is termed a railway, but which perhaps might be more correctly described as a steam tramway, the metre gauge line of the South Indian Railway Company, the single track of which meanders from city to city and gives Madras its only means of communication with the state of Travancore and the island of Ceylon. Roads, also, are very imperfectly developed.

We should also take note of the psychical and sociological background to South Indian industry. The country has the drawback of the tropics that it is full of tropical diseases. The death-rate is

smaller than for the rest of India, but diseases which, like malaria, elephantiasis and hook-worm, do not kill so much as impair vigour and vitality are extraordinarily prevalent. The people are generally of poor physique, and, as a rule, not capable of anything like the intensity of physical exertion which is attained by the people of North India. The dominant language is Tamil and the development of the Tamil language seems to me to be one of the most remarkable achievements of the human mind. Literary Tamil is, in my opinion, the most subtle engine of thought of any language I am at all acquainted with; and its versification the most elaborate. We are continually securing fresh evidence of the antiquity of Tamilian civilisation; and the theory which has been suggested by some scholars that Babylonian civilisation was originally an off-shoot of Tamilian appears to me to be by no means improbable. We have in fact, in South India, a living survival of the most ancient system of civilisation that the world has known; and it is natural therefore that the mind of the Tamilian should be dominated by the worship of ancient tradition. We may, in fact, sum up the psychological atmosphere and sociological condition, by saying that the South Indian is the sup r-Indian.

It is further of some importance to note that the governmental system of the Madras Presidency differs in one respect from that of the rest of British India. There are no Commissioners exercising authority over the Collectors; and I am inclined to think that the Madras governmental system is a less perfect instrument for crushing out initiative in its local administrators than that of other Presidencies. Madras is proud of its nickname "the benighted Presidency," for we are disposed to think that we are considered benighted merely because our opinions sometimes differ from those of the rest of India, and we observe that in the process of time the despised opinion of Madras is sometimes adopted by the superior Presidencies. As an example I may refer to the views of Sir Frederick Nicholson in connection with co-operative banks, fisheries and soap, and to the creation of an industrial department

of the local Government under Mr. Alfred Chatterton at a time when such action was regarded as heretical, not only throughout India, but also in the office of the Secretary of State. Before our Department of Industries was scotched by Lord Morley it had established successfully the Chrome Leather Tanning and Aluminium industries; and had initiated a work of far greater importance, which has subsequently been taken up by the Department of Agriculture, in the supply of oil engines for pumping purposes to agriculturists. The department suffered very much through Lord Morley's intervention and through the departure of Mr. Chatterton to take service with the State of Mysore; but it is now, I believe, entering upon a fresh career of vigorous activity, of which the successful manufacture of excellent lead pencils at a low price may be regarded as first fruits.

Of all the features which we have touched upon in the circumstances which condition South Indian industrial life the most important is that of power. In the absence of coal we have to enquire what water power is available. The western slope of the mountains, which is the short slope, is also the one which has the heavy rainfall. The great centres of population are on the longer, drier, eastern slope. The most important river is the Cauvery; and its fall and volume of water are sufficient to make the generation of electricity on a considerable scale possible. This river flows from the State of Mysore into British India. Within the State of Mysore it already supplies power for the lighting of the cities of Mysore and Bangalore and for the requirements of the Kolar Gold Field. There is a considerable further fall in the river after leaving the State of Mysore, and there are certain falls called the Hogenkall Falls which appear to be a possible site for hydro-electric works. At the extreme south of the peninsula the Tinnevelly cotton mills at Ambasamudrum managed by Messrs. Harvey and Co., are driven by water power. You are doubtless familiar with the Periyar Irrigation works, perhaps on the whole the most remarkable irrigation works in India from the engineering point of view. The river Periyar is the

largest of the streams in the south which flow from the Ghats into the Arabian Sea. It has been diverted and carried by a tunnel through the mountains to the eastern side of the water-shed and pours down into the channel of the Vaigai. At the present time this stream flows for ten months only. Where it emerges from the tunnel it descends in a great water-fall. In order to make its potential power available for industrial purposes it is desirable that the stream should be made to flow for twelve months in the year, and in order that irrigation should not suffer it is necessary that the present maximum flow during certain months of the year should not be diminished. This means that a considerable expenditure is necessary for increasing the storage where the river is embanked. This project has not yet passed beyond the stage of discussion. Another possibility of the future in the development of water power arises from the fact that on the top of the table-lands of the Nilgiri and Palni hills there is a rain-fall of about 70 inches per annum and a possibility of storing water at a height of six or seven thousand feet above sea level and five thousand feet above the neighbouring plains. The quantity of water passing from such reservoirs would not be great, but its potential energy would be very considerable.

Hydro-electric schemes being as yet undeveloped outside the State of Mysore, and coal being relatively dear, South India is at the present time restricted to industries in which the cost of power is a minor matter. This means, in effect, industries which are closely associated with the produce of the soil. On the whole the most important and interesting is the cotton industry. In the city of Madras there are the Buckingham and Carnatic mills, managed by Messrs. Binny and Co., and the Choolai mills of the Madras United Spinning and Weaving Company, which is under Gujerati management. The economic basis of the prosperity of these mills appears to me to be the excellent cotton grown in certain districts of the Madras Presidency known as Northerns and Westerns. It is unfortunate that in these districts the local cotton

is in danger of being superseded by varieties imported from the north which yield a much larger crop of lint, but which are of very inferior quality from a spinning point of view. The Madras Agricultural Department has reluctantly come to the conclusion that in these districts yield and quality tend to vary inversely as one another. The best cotton in South India is Cambodia, which is not only long in staple and peculiarly silky in texture but also a heavy yielder. The Coimbatore Spinning and Weaving Company's works, situated on the Cambodia cotton field, were established by local enterprise. They were not successful until they passed into the control of Messrs. Stanes and Co. Further south, in the Tinnevelly cotton field, Messrs. N. F. Harvey and Co. control the Madura hills and the Coral Mills at Tuticorin, as well as the Tinnevelly mills above mentioned. In this district there has been a struggle between the local cotton which is of high quality, and intrusive cotton of low quality from the north; but the Agricultural Department and the cotton buyers have combined and expelled the intruder. In this district the department has succeeded in introducing new strains of superior quality which are also heavy yielders. The cotton industry is also highly developed in Pondicherry, which has five mills, of which the Anglo-French Spinning and Weaving Co., managed by Messrs. Best and Co., is the biggest. The Pondicherry mills have the advantage of free trade with British India and a protected market in the French colonies, and they export very largely to Madagascar and French Indo-China. Another very interesting business carried on in Pondicherry is Messrs. Gaudart's iron-rolling and engineering works, which contrives to be prosperous in spite of its great distance from the sources of supply of coal and iron.

It will be noted that none of the mills I have thus far mentioned are managed by natives of South India. Most are under European management, and the Choolai mills under Gujerati management. At Koilpati, on the Tinnevelly cotton field, there is a spinning mill which is a local enterprise but which has

failed to show profits for a number of years past. More interesting is the weaving mill at Trichur in the State of Cochin, the shareholders in which are chiefly Madras vakils, and which is managed by a local man. After some difficulties this enterprise is now, I believe, well established. An interesting feature in its working is that its operatives are largely Nair women who are intelligent and efficient, the status of women among the Nairs being peculiar and exceptionally high.

If we turn to other industries, we find that rice mills in the most populous districts are becoming extraordinarily numerous; in fact, threatening one another's prosperity through excessive competition. The same phenomenon is observable in the brick and tile works on the west coast. Interesting experiments carried out by Mr. Thamban at Shoranur point to the possibility of a prosperous pottery manufacture. The refining of sugar and the conduct of subsidiary industries like distilling and the manufacture of solid carbonic acid at Nelikuppam and other centres is advancing under the management of Messrs. Parry and Co., who also have rapidly growing chemical works at Ranipet. But the great industry for which South India is peculiarly qualified is the oil industry. This should naturally take two forms:—(1) the extraction of oil from such sources as ground nuts and copra for export, and (2) the extraction of oil from gingely (til) for local consumption. The custom at present with regard to the former is to export the whole nut or seed and lose the profits of manufacture and to lose the oil cake which contains the nitrogenous matter derived from the soil. Messrs. Tata and Sons propose to change all this. In so far as oil seeds are pressed for the local market, the industry is at present in a very unsatisfactory condition and the product is almost invariably adulterated. Gingely oil in particular I regard as a most suitable field for co-operative enterprise, and I recently urged upon a small co-operative conference in Madras that every distributive co-operative society should have its own oil mill.

After the difficulty of power the chief obstacle to the development of more advanced industries in South India appears to me to be the lack of capital ready to offer itself for investment in industrial enterprises. The chief reason of this deficiency appears to me to be the fact that there is a greedy market for capital in agricultural land. In recent years there has been a very great appreciation of land values, due chiefly to the rise of agricultural prices and to the fact that the land revenue is a continually diminishing portion of the economic rent. As a general rule it may be said that the rent obtainable by the ryot who sub-lets the land which he holds of Government is about six times the land revenue. But I have received reliable information of one village where land paying Rs. 3 per annum per acre in revenue is leased at Rs. 300 per annum per acre, and sells for Rs. 6,000 per acre. There is, in fact, a great land boom proceeding. People with money to invest are very ready to buy land at a price which gives a very small immediate return, in the expectation of a future enhancement, or to lend money on mortgage to ryots with the hope of obtaining possession of the mortgaged property. Ultimately the time must come when this boom will end and there will be a serious shrinking in land values; that may give an opportunity for raising capital for industrial development. It is noticeable that since Messrs. Tata and Sons are embarking upon the oil industry the greatest undeveloped industrial asset of South India will be exploited by Parsi enterprise, aided, very likely, by British capital, while the South Indian capitalist employs his resources in land speculation and usurious money-lending. This is the more remarkable in view of the great part played by the Nattukottai Chettis in the financing of agriculture in Burmah and in other distant enterprises.

Turning from the more developed industries to the ancient traditional handicrafts, I have been very much struck in my travels by observing how persistent is the life of handloom weaving. Even in the making of plain country cloths a fair degree of prosperity appears to be possible for the weavers, provided they adopt such

improved contrivances as the fly shuttle and winding and warping machines, all of which are within their reach if the weavers of a particular village will co-operate. But if we turn to the weaving of elaborate cloths for *saris*, turbans, etc., which employ silk and gold thread, there is testimony everywhere to the fact that up to the outbreak of war the weavers were enjoying exceptional prosperity, and that this would have been fully maintained during recent years if it had not been for the difficulty of procuring dyes. Of all the weaving centres that I have visited, on the whole I think the most interesting is Reddipatti, at Conjiveram. The weavers there have formed themselves into a Co-operative Credit Society, which has freed a large portion of its members from indebtedness to traders, and has inspired them with sufficient confidence to combine and demand higher prices for their cloths from the merchants. They are now organising themselves in a co-operative society for purchase of raw material and sale of the finished product.

In conclusion may I suggest that an industrial development which would be peculiarly advantageous would be the growth of village industries which are not, like weaving—at present, to be the sole occupation of a particular caste or body of workers, but which should occupy the spare time of agricultural families. Our villages in South India, particularly in the fertile irrigated districts, require a very large number of hands for agricultural work at particular seasons of the year, when sowing, transplanting, and harvesting are in full swing. I may mention one village in South Arcot where the population is no less than three per acre, but which yet finds it necessary to import labour from neighbouring villages at the transplanting season. Could some subsidiary industry be established in each village which would occupy the leisure time of the agricultural families during the period when agricultural work is slack, the pressure of population on subsistence would become a more remote danger, and probably the average standard of comfort would considerably rise. Such an industry has been discovered in the manufacture of lace, which has very widely spread in many

parts, especially in the extreme south, partly under the control of missionaries and partly under that of private merchants. The most promising form of this industry is the making of lace of fine quality with good material and artistic design, as is done by the Belgian convent at Mulagamudu. I believe that this lace would find a very ready sale in New York, Paris or London, but when I asked for a sample to show to London firms, I was informed that the workers were so busy producing lace for the Indian market that none could be spared to make me a small box-full. The question what other industries of this type can be developed presents a most interesting and profitable field for enquiry. I am glad to say that some of our most progressive Zemindars are interesting themselves in this enquiry for the benefit of their ryots.

GILBERT SLATER.

CO-OPERATION & INDUSTRIAL DEVELOPMENT.

(Paper read at the Bengal Economic Conference.)

AT the outset the writer must crave the indulgence of the conference for the many imperfections in this paper. It makes no pretence at originality and has been written during great pressure of work and in circumstances which preclude recourse to statistics and books of reference. In it an attempt has been made to point out in general terms what may be expected of co-operation in the development of industries in India and what are its limitations.

The first step is to explain for the benefit of the uninitiated exactly what co-operation is. To some extent it defies definition—that is, it is impossible to dispose of it by a phrase or to describe its qualities in a few well considered sentences. For our present purpose two or three of its most obvious characteristics are of great importance. In a co-operative association we have a "combination of persons, not of capitals" and so the universal rule is "one man, one vote" irrespective of the number of shares which each may hold. Again, no dividend is paid upon share capital beyond the market rate for loan money. These two rules make capital the slave and not the master. A third that of unlimited membership, which keeps membership always open to new members, further differentiates the co-operative society from the joint stock company. But these rules in themselves are far from giving us the essence of co-operation. This has been excellently distilled in Mr. Wolff's "Co-operation in Agriculture" from which a few extracts are quoted. "It is just a simple junction of forces among a number of persons more or less similarly situated

and having a common object in view, for attaining that object. Its aim is not directly to make individuals rich. It helps them to make themselves so by removing obstacles and creating facilities for individual effort . . . It will not serve purely selfish ends. It offers a means for profitably uniting forces for the avoidance of unnecessary expense, for obtainment of better value for produce, for the withstanding of persecution and oppression. It will break up rings, cheapen purchases, facilitate sales, create steady markets . . . . It cannot exploit others . . . It aims not at profit but at rendering a common service. Wherever more is aimed at, wherever speculative gain is kept in view or mastership over others is aimed at in the place of attainment of equality, or else where there is essential inequality among those who propose to practice it, it is out of place."*

These words describe the aims, the virtues and the limitations of co-operation to perfection and deserve the careful study of those who see in it an instrument for the development of industries in this country. One feature—the secondary or subordinate position allotted to capital renders co-operation obviously unsuited for many forms of manufacture and business. It is clear at once that capital would not be forthcoming for highly speculative enterprises on these terms. In fact as will be seen later one marked characteristic of co-operation is its fondness for safe business. It prefers an assured market and a regular and certain supply of raw materials, and generally gives the go by to all kinds of risk. For the establishment of new industries in a country where manufacturing is little developed, where capital is very shy and used to large profits, it would seem to be *prima facie* unsuitable. But for all that it is not improbable that as time goes on it will play a large and increasing part in the industrial development of India.

This opinion is based not on mere theory, but on the history of the co-operative movement in other countries. Its activities may be classified in several ways. One broad line of distinction is

* "Co-operation in Agriculture" by H. Wolff, pages 17 etc. seqq.

between societies of consumers and societies of producers—another between agricultural and industrial societies. These divisions cut across each other—that is you may have societies for the supply of seed and manure to the farmer (agricultural consumers); societies for the sale of this produce whether raw, manufactured or partially manufactured (agricultural producers), societies for the supply of the necessaries of life to the dweller in town or country (industrial consumers); and societies of artisans, who manufacture in common or at least dispose in common of their wares (industrial producers). In societies of each category in many parts of the world the manufacture of goods as opposed to their mere distribution is undertaken and so they may be said to play a part in the industrial development of their respective countries. A survey of the history and characteristics of all four is therefore necessary.

Co-operative societies of artisans naturally first attract the attention of the Indian, who is proud of the reputation of the many surviving handicrafts of his country. They fall into two main classes, societies of those who work in their own homes and organise themselves for the supply of raw materials and the sale of finished goods and societies of those who manufacture in common or share in the profits of their factories. It is with the history of the first of these in other countries that the writer is least familiar. So far as his memory goes (and he has no means of checking it) these societies usually succeed where the industry has real vitality in itself, that is where production in the factory cannot compete with home manufactures. This condition most often occurs when the making of the article occupies only the spare time of the workmen, *e.g.*, the manufacture of toys and wood carving as practised by the Swiss and German peasants during their long winter. But there seems no reason why any kind of cottage industry should not maintain itself by co-operative organization, provided that the process of manufacture can be as efficiently carried out by hand power as by the aid of steam or electricity. This is not the place

to discuss the economic position of the handloom industry which is of such importance to India. It is sufficient to say that the handloom can beat the powerloom in mere mechanical efficiency at least in all types of work in which constant stoppages, an intricate pattern, or the fineness of the material necessitate a slow rate of progress and that the disappearance of the handloom weaver from India if it takes place will not be due to the inability of muscle to stand up against machinery but either to a change of fashion or to the inability of the weaver to organise himself and adopt modern business methods. Unfortunately the weavers are among the most conservative, the least educated and the most fanatical of the many castes or classes in India. To expect them by themselves to co-operate together and to manage their own affairs on modern business lines would be to expect a miracle. If they are to be saved in the face of the competition of the power loom, it must be by help from outside, from Government or the patriotic public. This is not true co-operation but it may in the course of a generation or so grow into it. Much has been done to help the weaver in other parts of India. In Bihar the most successful work has been accomplished in Ranchi district where the Ranchi Co-operative Union with the aid of a Government Demonstrator has taught 60 weavers to use the fly shuttle loom, sells the members of its societies yarn at fair prices and helps them to dispose of their finished products. What the results of this experiment will be remains to be seen. It is still an experiment, which has been gravely prejudiced by the conditions caused by the war, but enough has been done to show that the Ranchi weavers if organised and provided with capital and modern implements could make a very fair profit in normal times, and that what they have to fear most is a change of fashion which tends to make their aboriginal customers prefer the softer Manchester cloth to their present coarse garments. The most however that can be expected of co-operation is that it will save some at least of our fast waning handicrafts from extinction or that it will aid in the development of those spare time

cottage industries among cultivators without which modern experience seems to show that no village community can remain prosperous, healthy and contented.

Co-operation for joint manufacture by artisans and profit sharing are unlikely to play much part in the foundation of new industries in India. In the United Kingdom and on the continent of Europe they were as might be expected a product of the industrial revolution, one of the results of it and not one of its causes. They were first heard of as a phase of the community idea, which comprised life as well as labour in common. They presuppose a body of artisans trained to factory conditions and with some business knowledge and education. For many years they pursued a chequered existence and after a period of more than half a century since their first inception we find that in 1883 only fifteen productive societies based on co-partnership were known. Since then they have taken a new lease of life so that in 1908 there were 112 with an aggregate working capital of nearly two million sterling. But their development was due chiefly to a change of policy by which many of the older societies took into partnership consumers' societies and even individual capitalists, while the largest societies classed as co-partnership societies in the official returns are merely manufacturing concerns formed by the consumers' federations, which like the Scottish wholesale society admit their employees to membership and a share of the profits. All these are later products of the industrial revolution and may be classed as modifications of the capitalist system. No producers' society of a pure type composed of Indian artisans could have much chance of surviving in present conditions and if co-operation is to assist in the foundation of industries in India we must look elsewhere.

In the United Kingdom by far the greater part of production and manufacture for which co-operative societies are responsible has been undertaken by consumers' societies and their federations to supply their own needs in the cheapest way. The general principle of co-operative stores and other societies of consumers is " to go direct

to the source of production whether at home or abroad so as to save the commissions of middlemen and agents." They strive to eliminate "profit" in the ordinary economic sense and subject to certain charges (such as cost of distribution, insurance, reserve and depreciation funds) and charitable expenses to divide the resulting gain among the consumers. This is achieved by selling not at cost price but at the ordinary market rate and by the distribution at the end of the year of a "dividend" to each member in proportion to his purchases. In pursuit of this ideal the natural tendency has been for the societies more and more to undertake manufacture for themselves. The first stage was the foundation in 1863 of the English Wholesale Society by a federation of existing societies for the supply of their needs from the cheapest markets. This society founded in 1863 began its career as a manufacturer with the making of cocoa and chocolate in 1887, while in the same year the Scottish Wholesale Society purchased a large estate on the banks of the Clyde where many of its factories are grouped. The former now manufactures about one-fifth of the goods sent out from its depôts and the latter more than one-fourth, and their combined distributive trade some years before the war was well over thirty million sterling. The complete list of their factories would merely weary the audience. It includes factories for the making of jam, biscuits, bacon, clothing, boots, hosiery, soap, furniture, tobacco and cigarettes, crockery, tinware and brushes. Besides this the society possesses its own creameries, a line of steamers, a banking department, which ranks with the biggest banks in the United Kingdom, and in conjunction with the Scottish Wholesale Society, its own tea and coffee estates.

To what extent manufacturing societies of this type could aid in the establishment of industries in India is very doubtful. It is true that a co-operative factory has one great advantage, that of producing for a certain market, and that it would probably not have much difficulty in getting capital. It is true also that co-operators in Great Britain have with two or three exceptions set up all their factories in their own country, and since the consumer is always

likely to wish to manufacture at home, if it is only that he may supervise the better, it might be hoped that in this way the foundations of new industries would be laid in India. But we are told that in England "production was developed along the line of least resistance. The capital of its members has been put into industries where there was least likelihood of failure. Thus we find the 'Wholesale' engaged in the manufacture of goods that are in great demand, as well as in minor industries where great injustice to both consumers and producers is done outside."* The function of these co-operative factories has usually been to protect consumers against established industries or to break up rings and prevent adulteration. A wholesale society is not likely to be a pioneer in manufacture but tends rather to step in where the profit made by established concerns is unreasonable. It must be remembered also that these groups of factories in the United Kingdom have been built to serve a vast industrial population such as does not exist in India. They are in this sense also a product of the industrial revolution and not one of its causes. Apart from this the development of stores and other consumers societies has so far been insignificant and there is not, nor is there likely to be for a long time, sufficient demand from them to justify any manufacturing ventures. It is unlikely therefore that there is much to hope for from this class of society.

By a curious contradiction in terminology it is when we leave so called industrial co-operation and turn to co-operation in agriculture that the best prospect of encouraging new industries in India opens itself out. The progress of other countries has been eloquently and graphically described by Mr. Wolff in his book "Co-operation in Agriculture" to which all who wish to study the subject are referred. Here again societies are of two types, societies of consumers and societies of producers, though often enough one society both supplies the farmer with his necessities and disposes of his products to the best advantage. Societies for the supply of seed, manures, farm implements etc., are organised very much on the lines

* "Industrial Co-operation" edited by Catherine Webb, page 124.

of co-operative stores, except that they tend to sell on commission whenever possible instead of laying in stocks, and in many countries they sell along with agricultural requisites such simple household articles as an agricultural population uses. Associations of this type which have proved most successful in Ireland are already springing into existence all over India. Unlike the industrial stores they find a large population waiting to be supplied. It is true that at present many of the needs which will soon be universal, *e.g.*, for manures and farm implements have still to be created, but with the rapid progress of agricultural research and demonstration and the provision of adequate capital among the cultivators the demand is certain soon to swell to very large dimensions. To satisfy it in the cheapest possible way—since cheapness is of even greater importance in India than elsewhere—these associations are likely very soon to be driven to federation and manufacture. Apart from the possible manufacture of clothes, oil, sugar etc., for household use, the making of agricultural manures will soon become necessary. In the United States this is said to be done on a large scale, and in Italy the manufacture of superphosphates has proved most remunerative. In the writer's opinion it is only a question of a few years before co-operative factories will spring into existence to satisfy the needs of the agricultural population.

The co-operative disposal of agricultural produce also will give some scope for the foundation of new industries in India. It is difficult to draw the line between agriculture and industries; but every new process undertaken by societies of cultivators will at least tend to give fresh employment to the population. The separation of cream and the making of butter and ghi in co-operative factories may be considered mere operations of agriculture, but in so far as they specialise in separate processes and make dairy farming more profitable they should certainly be classed as new industries. How far the farmer and cultivator can and should try to make up or finish his raw material is a moot point. Mr. Wolff seems to hold that should circumstances demand he may proceed to any limits short of

retail trade. This except in the case of the sale of eggs and milk always proves a failure. As a general rule co-operative societies of agriculturists avoid the making up or manufacture of their produce except in special circumstances. "Whenever produce can be satisfactorily got rid of in its natural shape farmers will probably prefer that form of disposal."* One of the chief exceptions to this rule is where by local manufacture a valuable by-product will be conserved for the farmer's use. In Germany and France for instance the peasant turns the starch of his potatoes into spirit or commercial starch because after receiving for it about the same price as he would have got for his potatoes he is left with a valuable winter fodder. The same reason should lead to the extensive pressing of oil seeds by co-operative organisations in India. Oil pressing from olives has proved a co-operative success in France and in Austria and, Mr. Wolff tells us, to some extent also in Italy. Plants of the size that are now being laid down throughout Bihar should not be beyond an Indian co-operative association to manage. The result will be the retention for the raiyat of a manure for intensive cultivation, which is becoming more and more in demand, and a cattle-food which may help to solve the difficulty of maintaining a better class of plough bullock. Other instances of opportunities for co-operative manufacture will occur to those familiar with Indian agriculture. But there is a point beyond which co-operation cannot go for many years to come. Where the capital required is large, as in the case of sugar making, or the processes intricate, manufacture must be left to the capitalist.

The full field for co-operative enterprise in industries has now been explored. The result will be disappointing to many who have been accustomed to think that co-operation can do anything. But so long as human nature remains what it is and society is organised on the basis of private property, vast areas of industry must be closed to it. Wherever great skill, enterprise and initiative are required and wherever great risks are to be run, there is the field of the

* "Co-operation in Agriculture" page 58

individual and the capitalist; and, especially in a country like India, in proportion as the capital required is large, the more unlikely is the co-operator to be able to raise it. Seeing that the establishment of new business in any country is always risky and a large capital and technical skill tend to play an ever increasing part in the success of a manufacturing concern, it is clear that the limitations of co-operation in the establishment of new industries are strict.

The object of this paper has been first of all to dispel the many vague claims put forward by co-operators, secondly, to show that there is a great field for co-operative manufacture—in a word, to put co-operation in its proper place. The claims of the enthusiast must in the light of experience and hard facts reluctantly be disallowed, but it is equally wrong to run to the other extreme and to deny that co-operation can assist India in her industrial regeneration. So far is this from being true that there is every reason to hope that at no distant date the Zemindars and cultivators of India, organised in co-operative and societies and federations throughout the peninsular, will to a great extent supply their wants as farmers and householders from their own factories.

B. ABDY COLLINS.

INDUSTRIAL DEVELOPMENT AND THE LABOUR QUESTION.

(A paper read at the Bengal Economic Conference.)

THE particular "labour question" with which I propose to deal may be stated as follows:—

(1) Is the supply of labour even at the present time such as to meet the requirements of industries of the modern type in India?

(2) If not, is it not important that when considering what can be done to promote industrial development in India we should consider what might be done to remedy existing deficiencies in the labour supply?

In the Census reports for 1911 something is said of the character of the labour supply in the large industries but, so far as I know, the most recent systematic enquiry on the subject was that made in 1906, when Mr. Foley, a member of the Indian Civil Service placed on special duty for the purpose, published his very informing but somewhat inconclusive report on the Supply of Labour in Bengal.* With a view to obtaining up-to-date information, I circularised last month a number of the largest employers of labour in different industries in different parts of India; and I have received replies from a considerable number. I would take this opportunity of expressing my thanks for the information so readily and courteously placed at my disposal. The points on which I asked for information were the following:—

(1) Is the supply of labour sufficient for your requirements? If not, at what times of year and in what branches, is there a shortage?

* Mr. Freemantle published at the same time a similar and valuable report on the Supply of Labour in the United Provinces.

(2) To what fact, or facts, do you attribute this shortage (if any)?

(3) By what means, in your opinion, could the supply of labour be increased?

I have received as a matter of fact quite a number of valuable suggestions in regard to (3), though frankly I did not look for much assistance under this head. Whether it is that, as practical men, they realise too well the futility of many of the proposals that are put forward, or whether it is that they fear some interference with their freedom on the part of such an agency as it may seem otherwise desirable to establish to help them out of their difficulties, my experience of employers is that they are slow to put forward concrete recommendations as to how those difficulties might be overcome. I cannot claim that the information received even as regards (1) and (2) is of anything like a comprehensive nature; but it is, I believe, sufficiently representative to merit my placing it before this Conference.

Returns were obtained relating to the following branches of industry; and for the four principal I give, for ready reference, statistics of the labour employed according to the last Industrial Census :—

1.	*Cotton Mills.*—Total number of operatives employed ...	295,000
	Number of skilled operatives per cent. of total ...	56
	Number of female operatives per 100 males	29
2.	*Jute Mills.*—Total number of operatives employed	217,000
	Number of skilled operatives per cent. of total	30
	Number of female operatives per 100 males ...	21
3.	*Coal Mines.*—Total number of labourers employed	139,000
	Number of skilled labourers per cent. of total	41
	Number of females per 100 males ...	43
4.	*Railway Workshops.*—Total number of labourers employed	94,000
	Number of skilled labourers per cent. of total ...	70
	Number of females per 100 males	1
5.	*Miscellaneous.*—Iron and Steel Works, Paper Mills, Cotton and Jute Presses, Sugar Factories.	

(1) *Cotton Mills.*—The David Mills in Bombay City state that there is some shortage of labour in all departments just before and during the monsoon period, when a fair number of operatives go

to their homes for agricultural purposes. The mills at Sholapur, on the other hand, report general scarcity of labour during the harvesting season. A large mill in Ahmedabad speaks of scarcity prevailing the whole year round, though specially marked during the months from June to January. For Cawnpore I have returns from three large mills, all of which report an insufficient supply of labour at all times of the year. Two speak of acute shortage during May, June and July; and the third mentions that "as regards cooly labour the shortage is probably more acute than in the case of skilled labour, particularly when grain and other crops are being handled." At the present time the situation is said to be accentuated owing to recruitment for the Labour Corps, also to the extra war work which is being carried on in the bazaars in Cawnpore, where temporary employers are paying high wages. A return from the Madura Mills in the Madras Presidency states that the supply of labour is, speaking generally, sufficient for their requirements. The Bowreah Cotton Mills in Bengal (the oldest cotton mill in India, having started work in 1822) report a generally sufficient supply of labour, some scarcity, however, being experienced during June and again in December in connection with the cultivation and harvesting of the rice crops.

Addendum.—I have received a very full and valuable return, since reading this paper, from Mr. B. D. Mehta, the manager of the Empress Mills at Nagpur. Particulars are given for the different departments, from which it appears that during the rainy season the labour supply is generally sufficient for their requirements, but that in most departments shortage is experienced during the cold-weather months when the cotton season affords alternative employment in the fields and the Ginning Factories, and again from April to June when the marriage season takes many from their work. The shortage is acute during the latter period when it coincides with an outbreak of plague. I may also quote in this connection from evidence given by Mr. Mehta before the Indian Industrial

Commission. "The Cotton Industry though making steady progress is capable of great expansion. The most serious handicap is want of steady and skilled labour for finer work. Long-stapled cotton can be imported, as is done in Europe and elsewhere; but any competition with the finer goods, which constitute the bulk of our imports, connotes concentration in work, skill and agility which are sadly lacking in the mass of the operatives found in Indian Textile Mills" The remedies suggested by Mr. Mehta and the heads of the different departments are very briefly as follows. To begin with, free and compulsory elementary education is, in their opinion, indispensable if the standard of living of the labourers is ever to be raised. They consider that much needs to be done to make the conditions of factory life more attractive by the provision of decent housing accommodation, by welfare schemes of all kinds, and by the reduction of working hours. On this last point it is proposed that the working hours should be reduced from 12 to 10, that the recess interval at noon should be an hour instead of half-an-hour, and that every Sunday should be a holiday.

I have also received returns from the Manockjee Petit, the Bomanjee Petit, and the Dinshaw Petit, Cotton Mills in Bombay City in which is emphasised the importance of raising the standard of living among cotton operatives, and so improving both the supply and the efficiency of the labour. Better housing conditions and education are means suggested. At these mills there is some shortage at all times of year, and considerable shortage (due to the claims of agriculture) in April-May and again in October-November.

(2) *Jute Mills.*—I received a very interesting reply from Messrs. Kettlewell, Bullen & Company, who are the managing agents for two Jute Mills and three Cotton Mills in Bengal, one being the Bowreah Cotton Mills already mentioned. One of the former, the Fort William Jute Mills, is situated in Howrah; the other four mills are situated on the banks of the Hooghly at a considerable distance from Calcutta or Howrah. Contrary to

what we should expect, it is at their Howrah mills that they find the labour supply unsatisfactory; at their other mills, though there may be a little seasonal fluctuation, they experience no appreciable inconvenience. The explanation given is that, Howrah being a big industrial centre and offering many fields of employment, a good deal of the labour they employ is of a floating nature, working at the Fort William mills to-day and somewhere else to-morrow, with the result that periodically they experience a considerable shortage whereas at their up-Hooghly mills there is little opportunity for the labourer to wander to other concerns, and he therefore continues to work in the mills where he is accustomed to work or else goes away altogether. They add that the congested condition of Howrah precludes generally the importation of permanent mill labour, since few concerns possess the land on which housing accommodation could be provided. This interesting statement lends support to the view, not without its advocates even in Western countries, that what is needed for the solution of this problem of the labour supply is delocalisation of industry.

Conditions generally in the jute mills appear to be very similar to those described by Mr. Foley in 1906; and I happen to have returns from several of the mills which he visited and reported upon. There would appear to be almost invariable scarcity of labour in the hot-weather months (April, May and June) as a result of two causes, mainly, *viz.*:—

(1) The return of up-country labourers to their homes to look into their domestic affairs, for the marriage season, or simply for a change and a holiday.

(2) The disinclination of the local Bengali labour to work during the extreme heat.

One or two mills speak of a seasonal shortage in the autumn as well, due to the prevalence of malaria and other sickness.

Some interesting suggestions are made for the improvement of conditions. The manager of the Gourepore Mills writes: "We endeavour to increase our labour supply by supplying good houses

for the workers to live in, by giving a good water supply, and by improving the sanitation of the surrounding area as much as possible." The manager of the Hastings Mills makes the suggestion that, in the case of up-country labourers returning to their homes on a visit, the railway companies should issue third-class return tickets, so that the men would have the return halves to bring them back to Calcutta. As it is, they frequently spend all they have at home, and are without the wherewithal to bring them back. The very great shortness of labour during the past year he attributes in part to the enhancement of railway fares. The manager of the Barnagore Mills at Bally urges the granting of cooly tickets at a reduced rate from the Madras side, in the belief that if Madrasis were encouraged to come north in greater numbers, they would ultimately settle and solve the labour problem to a great extent.

(3) *Coal Mines.*—It is well-known that the question of the labour supply in the coal mines has, in recent years, ranked only second to that of providing labour for the Assam tea-gardens. A Labour Enquiry Commission went into both questions very thoroughly in 1896, and made certain recommendations; but, though the labour problem has to some extent solved itself, the situation in the coal mines remains substantially the same as it is described in the report of the Labour Enquiry Commission in 1896, in Mr. Foley's report in 1906, and in Mr. O'Malley's Census Report in 1911. The Bengal Coal Company in answer to my own enquiries, repeat the old suggestion that a combination of all colliery owners, with a view to recruiting and settling up-country labour at the mines, would probably meet the difficulty best; and this has the support of the Barabani Coal Concern. But although this was the main recommendation of the Labour Enquiry Commission in 1896, so great are the practical difficulties involved that, in spite of the evident attractiveness of the proposal, nothing has yet been done to give effect to it.

The returns which I have received show that coal-cutters, who are for the most part local agriculturists of the aboriginal classes,

are especially scarce in July and August and again in December, in connection with the cultivation and harvesting of the rice crops. One colliery manager suggests that Santals, Khols and other aboriginals should be drafted into the coal districts under indentures. They would be trained as coal-cutters by the colliery owner to whom they were indentured, receiving *khoraki* during the period of training; and they would be compelled to remain at the colliery for the period specified in their agreement. The same manager complains of great scarcity at all times of year of good fitters and other skilled workmen, engine *khalasis*, boiler firemen, and unskilled surface labour; and recommends that up-country men be recruited for these occupations, more especially among the Teli and Mochi castes.

(4) *Railway Workshops.*—Except in the case of the East Indian Railway workshops both at Jamalpur and Lillooah, where very little difficulty as regards labour seems to be experienced, most companies complain of a lack of skilled labour, such as carpenters, blacksmiths, fitters, electricians, painters, moulders and turners. This is accentuated at the present time by the war demand for skilled labour for railways in East Africa and Mesopotamia; but is due mainly to the large additions to railway workshops which have been necessary in recent years to cope with increasing traffic, as well as to the increased demand for skilled labour resulting from industrial development generally. It is clear that the needs of the railway companies in this respect can only be met by the training of apprentices; but this takes time and, as the Loco Superintendent of the North-Western Railway complains, private concerns often entice away the mechanics trained in railway workshops by offering them higher rates.

As regards unskilled labour, the North-Western Railway Company states that this is generally short at harvest times in March and October. The Loco Superintendent adds the following interesting statement :—" As regards unskilled labour, matters will right themselves when the population increases in the large new

areas recently brought under irrigation. The Punjab is in a peculiar position owing to the very large expansion of irrigation in recent years and the great mortality in recent years, due to plague and the exceptionally severe epidemic of malaria in 1908." The Carriage and Wagon Superintendent of the Bombay, Baroda and Central India Railway at Ajmere also attributes the present shortage which he is experiencing to the prevalence of plague and malaria as well as to the war. The Oudh and Rohilkhand Railway, with its workshops at Lucknow, and the Great Indian Peninsula Railway at Bombay experience occasional and seasonal shortage on account of the agriculturists among their labour staffs going home to attend to cultivation. The Carriage and Wagon Superintendent of the latter railway complains of the thoughtless manner in which workmen in the company's regular employment will throw up their jobs for a temporary extra inducement elsewhere.

(5) *Miscellaneous.*—As regards the supply of labour at Iron and Steel Works I received replies from Messrs. Burn and Company, the Bengal Iron and Steel Company, and the Tata Works at Sakchi. At Sakchi no shortage is experienced. The Bengal Iron and Steel Company state that labour is insufficient for their requirements at all times, but is particularly scarce in all branches from the beginning of June to the end of July and again from the middle of November to early in January. Labour has been especially scarce during the past two years, owing possibly to good rice crops rendering many of the local agriculturists independent of industrial employment. Messrs. Burn and Company experience a similar seasonal shortage. They state that they never have enough smiths, or smiths' helpers. They add that much of their labour difficulty is due to the intermittent nature of the orders received. The only means, in their opinion, of permanently increasing the labour supply is by doing everything possible to encourage the growth of Indian industries, which in their opinion can best be accomplished by the stoppage of all indents to the India Office.

In regard to Paper Mills, I was informed both by the Tittaghur and the Bengal Paper Mills that they experience no shortage to complain of. This was also Mr. Foley's report in 1906, the explanation which he gives being that the work is attractive and such as the lowest castes are capable of doing. The Upper India Couper Paper Mills at Lucknow report seasonal shortage at harvest time.

In Cotton Ginning and Pressing Factories in the Bombay Presidency there would appear to be some shortage of unskilled labour during the cotton season (November to May), as a result (1) of good harvests during the past few years, making it possible for the cultivator to pay higher wages to labourers who prefer to work in the fields rather than in a factory; (2) to the higher wages offered in spinning and weaving mills; and, (3) recently, to recruitment for the Labour Corps. Mechanics apparently can be had without much difficulty, which seems also to be the experience of Jute Pressing Factories in Bengal. In the case of the latter there appears to be little or no shortage during the pressing season. Mr. Foley reported to this effect in 1906. The labour employed consists principally of Uriyas and up-countrymen; and the seasonal character of the work probably helps to make it attractive.

Messrs. Begg, Sutherland and Company, who are the managing agents for Sugar Factories in Bihar as well as in Cawnpore, inform me that the labour supply at their factories is at all times sufficient. Some of the factories work for only four months in the year; but the labour usually returns for each crushing season.

The provisional conclusions at which I have arrived from a study of such materials as I have been able to collect are as follows :—

(1) The ideal situation, so far as the labour supply is concerned, for a factory in India at its present stage of economic development seems to me to be that enjoyed by the railway workshops at Jamalpur, for example, or by the big cigarette factory at Monghyr close by, where skilled workmen can be trained without much fear

of their being tempted away, and where semi-skilled and unskilled labour can be drawn from the surrounding agricultural population. The works at Jamalpur, where 10,000 hands are employed, depend entirely on local supplies, bringing the workpeople in every day by special trains from short distances up and down the line. Under such conditions there is no necessary divorce, looking as we always must in India at the family as our unit, between agriculture and industry, nor any necessity for the maintenance of a separate establishment on the part of those who contribute to the joint income out of their earnings in industry. The same, I think, may be said of the sugar factories, with the additional attraction to the agriculturist that the crushing season is a short one, and does not interfere with agricultural operations to any great extent.

(2) The next-best conditions, I would say, are realised in the case of the industrial concern which is to some extent isolated, but cannot depend on the local labour supply altogether to meet its requirements. The paper mills in Bengal and the up-Hooghly jute mills, of which I have spoken, fall into this category. Such concerns can generally attract labour from outside, without the fear of recruiting for their rivals, by offering decent housing accommodation, a pure water-supply, good sanitation and the like; and more especially if, as in the case of the East Indian Railway Company's collieries at Giridih, they can give their permanent workpeople in addition a little land to cultivate. Nothing is more attractive to the Indian labourer than that; and the attractions offered must be sufficiently great, otherwise the labourers will not bring their wives and families with them, and unless they do, they can never be regarded as permanent.

(3) The least satisfactory, I think, is the situation at large centres of industry and population like Howrah and Cawnpore, where employers still depend to a great extent on labour drawn from outside, and where the habits of such labourers are such as to interfere more or less seriously with industrial operations. As long as this labour remains unassimilated to industrial life, and I

gather that even in so thoroughly industrial a city as Bombay this is even yet the case, so long will industry and industrial development in India be hampered. Nor do I see any way out of it. In a congested area like Howrah it does not seem possible to realise the conditions under which the labour will be tempted to settle permanently; and as long as the labourers drawn from outside leave behind them their families and a few bighas of land, so long will they continue to return to their village homes at certain seasons of the year. It must be remembered also that in the districts from which the bulk of this labour is recruited, namely, where the population is dense and the land very much subdivided, an extra hand or two to assist in cultivation is almost indispensable at certain times of year. Certainly higher wages alone do not provide a remedy, as is sometimes suggested; for, as plenty of employers have pointed out, the standard of living being what it is in India, the more a man earns in the mill or factory, the longer the holiday he will be inclined to take in his village home. At the same time the improvement of sanitary conditions (which, on this as on other grounds, calls for all possible encouragement at the hands of Government) may very well effect something; for I know that the labourer from Bihar, at least, has a great dread of the ravages of malaria and cholera and other diseases, which he traditionally associates with life at a great centre of population like Calcutta. Where the shortage of labour experienced is not seasonal only but is chronic, as in the case of the coal districts, something might be done by organised recruiting; but for this an agreement between the various employers interested is a necessary preliminary, and so far all proposals put forward to this end have come to nothing. The same applies, perhaps, to the systematic training of skilled labour. If agreement could be first reached between employers, Government might well be asked for assistance, both as regards recruitment in suitable districts and as regards industrial education of a practical kind such as is provided by the East Indian Railway Company in their collieries at Giridih.

To sum up. Granting that a satisfactory labour supply is one of the pre-requisites of industrial development (and nowhere, perhaps, more than in India,, where three or even more hands are often required to do the work that one would do in England), how can this be best secured, and what assistance can Government render in the matter ?

Looking first at the latter part of the question, there seem to be two principal ways in which Government might help, *viz.*:—

(1) By co-operating with employers in the improvement of housing conditions and sanitation generally at big industrial centres, and so making possible a fuller incorporation of the industrial population.

(2) By opening recruiting centres in selected districts, by granting concessions on the railways, and by subsidising carefully thought-out apprenticeship schemes and industrial schools, all in close association with employers.

In answer to the first part of the question, I would say that the evidence, so far as I have been able to examine it, tends to show that the best way to provide labour in India for the requirements of industry of the modern type is to *delocalise* industries so far as possible, and so far as is compatible with the other economies involved. This is the view taken by Mr. Blunt in his Census Report for the United Provinces for 1911, and endorsed by Mr. Wattal in his interesting pamphlet on the Population Problem in India (p. 79). It is a view that commends itself in the interests of employers and workpeople alike, and finally in the interests of agriculture as well; for a point that must not be lost sight of is that, if there are complaints of a shortage of industrial labour, there are complaints equally well-founded of a shortage of agricultural labour also. Any form of industrialism which would rob agriculture permanently of those extra hands that

are so imperatively required on India's small holdings for short periods at certain seasons of the year is to be regarded with distrust; for I am one of those who believe that the increase of the national wealth and the raising of the standard of life in India are bound up, and must for many years remain bound up, with India's agriculture.

E. A. HORNE.

THE LABOR QUESTION AS AFFECTING INDUSTRIAL DEVELOPMENT IN INDIA.

(Paper read at the Bengal Economic Conference.)

It is a happy augury that a paper on the labor question in its relation to Industrial Development in India has been placed first upon the agenda of the first conference of Economists in India, because this subject is undoubtedly one of the most vital importance to the future of India. There is indeed no aspect of the economic and social growth of the country which may be so extensive in its influence on the future character of society as that of labor; nor any problem which, if rightly solved, is so pregnant of possibilities of good results, nor which, if wrongly solved, is so potent of evil. And this at once becomes clear if for a moment we think that when we use those dry technical terms the "conditions of work" and "supply of labor" we are dealing, not merely with mechanical and mathematical ideas, but with the most intimate daily experiences and feelings of millions of human beings. Not until we attempt fully to realize the reactions of economic conditions upon every feature of human life, have we as economists any right whatever to assume that our theoretical conclusions may be used as the basis of practical recommendations. We must be humanists, in the practical sense of the term, as well as economists if we are to be of service to our fellowmen. The thoughtful working men of England had, indeed, great justification for the hatred and contempt with which they regarded the economists of thirty and forty years ago; for the workers knew, by repeated and painful experience, of the importance of many social and economic tendencies of which the economists were then woefully

ignorant. Let us try to make sure that in India we avoid repeating this mistake; which we can do only by resisting the always natural tendency to narrow down the scope of our inquiry. The labor question in India has the widest ramifications. It is indissolubly connected with the population question and thus with marriage customs and the standard of living; also it is connected with the caste system and the land tenure, and with the laws of inheritance, and again with questions of housing and education. Our investigations must extend to all these and many other spheres, if their results are to be trustworthy.

It is important to be clear, in the first instance, as to exactly what we mean by the labor question in India, because this term has a very different signification in different countries according to their stage of economic development. In advanced western countries the phrase has come to be applied to the question of the relations between labor and capital—to the struggle between the workers organized in trade unions and their masters, the employers, for the larger share of the immediate product, and for safer and pleasanter conditions of work. In India the meaning is very different, because large-scale industries are in their infancy. The labor question means here the problem of how to obtain a sufficient supply of labor to enable the starting of new industries, mostly those requiring to be worked upon a large scale if they are to flourish in competition with imports from abroad.

The limiting factor in the starting of new industries in India to-day is not nearly so much the difficulty of obtaining capital as it used to be. It may safely be said that for any commodity keenly demanded, for the manufacture of which there is an ample supply of raw materials, the capital will be forthcoming in India, or from abroad, if it can be shown that labor of the right sort will be available for carrying on the industrial processes. Of course the question of management is very important; but if this be not available in India it can be arranged from abroad if the supply of raw materials and of labor be promising. If capital is shy

at the present day it is in most cases because it has good reason to be so. I believe that if anyone will question, as I have done, the English and Indian business men who are managing, or are concerned with promoting, new industries, he will come to the same conclusion. Of course, in every country the majority of employers grumble about the inefficiency and slackness of their employees, for they would naturally like all to be up to the standard of the smartest; but the consistency with which one hears of an insufficiency of labor, except in certain favored localities, and the generality of certain undesirable characteristics alleged in the supply that is available, indicate, in my opinion, that the deficiencies are real.

It is urged by some, however, that the supply of labor is not absolutely insufficient but only relatively so, the determining factor being the rate of wages offered. If the laws of the supply of labor prevailing in western countries applied here, this might be true; but the facts seem to point the other way. The general experience is that if higher wages are paid the workpeople, whose standard of living is low and remains unaltered, they save so much the more money and consequently depart to their homes so much the sooner. This has been proved again and again in the cotton mills and in the coal mines, so that paying higher wages may in the short period, positively reduce the quantity of labor available. A striking case occurred during the boom in the coal trade in 1906. The demand for labor at the mines of the Jherria coalfield greatly increased, and many companies were refusing orders because they could not in any way get the labor necessary to work the coal. As the high price justified it, some of the mine-owners advanced their wages rates, and this at once began to draw labor from the other mines; consequently the latter, to protect themselves, were obliged to increase their rates equally or even more. The net result was that all the mines were paying higher rates, but had little if any more labor available than before, the influx of new labor drawn from outside being balanced by the outflow of labor which had the more quickly

satisfied its need of a few rupees to tide over the barren months till the harvest time and to purchase the few luxuries wanted for the present year.

The peculiar and important feature of Indian industrial labor is that much the larger part of it is still attached to the soil, that is to say retains a close family and financial connection with the ancestral village. The settled industrial population, permanently occupied in a given industry, is comparatively small, probably not 20 per cent. of all workers in mines and power-driven mills, works and factories, including as "settled" persons drawn from old town populations. Omitting the indentured labor of the tea-gardens, the whole of the remaining supply consists of seasonal migrants, as we may appropriately term them. Each one will have some fields of his own in his village, or a share in the family fields, and it is essential that he be at home at the times of ploughing and sowing and harvesting. In the United Provinces the slack times in agriculture are December, January and February, and from early in May till the rains break. At such times the labor supply is abundant. In the lower provinces the busy seasons in agriculture are respectively the planting and the harvesting of the rice crop, which are approximately July-August, and November to January. At these times the weekly output of coal diminishes in a very marked manner.

In nearly all parts of the Ganges Valley which are within easy reach of a railway the cultivators are by no means ignorant of the industrial occupations open to them in the towns and coalfields. From the congested districts of the Oudh there is a continual stream of emigrants going to Assam and Lower Bengal, to Bihar, and even to Burma and the mines of the Central Provinces. But few villages can be found in which some man has not been to work hundreds of miles away at some industrial occupation. Very often there are several such returned emigrants in the village. It is an important fact that the immobility of labor in India which is so widely written of does not mean that labor does not travel. The

Indian ryot likes railway travelling in spite of the horrible discomfort he usually has to endure. He hears that high wages are to be earned in certain places, although the cost of living is also high, and he decides to venture forth, after borrowing the cost of the railway fare. Being usually sober and thrifty he collects after some months a small pile of rupees. Probably he stays long enough to earn as much as will pay off his debts; but in quite a large proportion of cases he never goes back to this industrial occupation again. Many, of course, do continue to be regular seasonal migrants, and thus we often find that there are numerous family members dependent on them, some of whom are doing very little work, either because the family holding is too small or because it is simpler to let it out to tenants and merely live on the rents and the remittances of relatives.

These, then, are the circumstances under which employers find that an increase of wages does not increase appreciably the number of laborers offering. Perhaps in the long run, after eight or ten years, it does do so; but the employer is usually not in a position to spend for this distance ahead; certainly not unless he can purchase practically a future certainty. It would seem that the rises of wages which have actually occurred frequently in recent years have been necessary to maintain the existing supplies of labor, because industries have been competing against one another, and the prices of agricultural produce have risen so much that cultivation has paid as well as going to city industries.

I should like to make it clear that nothing I have said can justly be taken to mean that I am opposed to labor earning increased wages. This I should like to see happening, because the wages of labor are too low in this country for any reasonable standard of civilization to be possible for the workers. But the proper solution of this question is more a matter of efficiency of the laborer himself and of the capital instruments with which he works than of raising the present piece-rate for work actually produced. There are cases, of course, where the rate of remuneration is very

low for work actually turned out when compared with English standards; but in most of such cases it will be found that trade union combination has been effective in substantially raising the wage-rate in England. Speaking generally, however, and in the interest of the growth of industries, it is undesirable that wages should be increased except in the same ratio as the worker's efficiency increases.

The brief review I have given of labor conditions as they now exist in India is very incomplete; but it is true in its general import, in spite of the fact that there are some new factory industries, such as potteries, which have no difficulty in obtaining labor, chiefly because there is already a large supply of poorly paid handicraftsmen having the necessary skill. A general review of the labor supply of Bengal and the Ganges Valley is to be found in two admirable official reports, one on Bengal labor by Mr. Foley, and the other on the labor supply available in the United Provinces by Mr. S. H. Fremantle. Although written twelve years ago, they are not by any means out of date, except possibly in certain statistics; for in this period little change has come about in the social customs which determine the character of the labor supply.

Before proceeding to consider by what means the labor supply for large-scale industries may be increased, it will be more logical to examine that school of thought which denies that the growth of large scale industries is a desirable end in the interests of society as a whole. Ruskin and Prince Kropotkin have supported this doctrine, and in India one of its exponents is my friend Mr. Ghandi Mr. Radhakamal Mukherji in his *Foundations of Indian Economics* takes a moderate or intermediate view, holding that the handicraft industries have a definite place in society and that measures should be taken to prevent their extinction by the competition of factories.

The writers who are opposed to large scale industries all acknowledge the strictly economic, or rather *business*, economies which result from the division of labor and from large-scale

operation. But in their view the factory system necessarily entails such degrading moral and physical tendencies that it creates a social evil far outweighing the monetary advantages. There was much justification for this view in England when Ruskin wrote, and later. There is no need to go beyond this very city in which we are assembled to get ample evidence of the degrading conditions under which people have to work and live with the advent of the factory system in our midst. In the factories are noise, dirt and dust; and people of all sorts and classes jumbled together, with tiny children amongst the machines, brought into the mill so that their mothers may keep them in sight, there being no one in their homes to leave them in charge of. But conditions in the factories are far better than the conditions under which the workpeople are housed. They are compelled to live with a whole family in one room 10 by 12 feet at best, often only 10 by 8 feet, with little or no verandah. The room will be in a dark, noisome, smelly street into which the air and sunshine cannot penetrate, and which is in every way insanitary. A visit to any of the congested parts of the city will be instructive, if trouble be taken to find out the narrow alleys turning off the main streets. In the outskirts of the city many mills have provided housing accommodation for some or all of their workpeople, and this is in most cases sanitary; but some which have been built, even recently, two stories high along narrow blind streets are slums of the worst description from the commencement. In almost all mill coolie lines the rooms are much too small, the people are crowded on top of one another with no privacy, and there is still the dull monotony of nothing but dirty bricks and mortar, which is mentally most depressing to persons who have been living all their lives previously in the bright sunshine and green of the crops and trees of their native village. The floating character of the industrial population also has its own ill effect through the absence of that local public opinion which in the villages maintains a decent standard of conduct. Living under such conditions as I have described the people lose self-respect, and being without the

restraint of public opinion they give way to temptations, and become addicted to vices of various kinds, of which the drinking habit is one of the worst. This is a very moderate picture of the condition of the majority of the working classes in this country in places where no special efforts have been made to improve their condition, just as it would be a moderate picture of the conditions prevailing a hundred years ago in England. It is small wonder that there are thinkers who would teach us that the social losses of the factory system are greater than its gains.

It appears to me, however, that this attitude is somewhat cynical, or at least fatalistic. It assumes that these admitted evils are inherent in the system; whereas it has been plainly proved in numerous cases in Europe and America, and also in India, that workpeople can be employed and housed under conditions which are not only *not* degrading, but are positively beneficial, helping to improve the health and promoting education. In England we have the remarkable examples of the great factories of the Cadbury's and the Rowntrees, with every thought taken for the efficiency and health and enjoyment of life by the thousands of their workpeople, we have the great soap factory and its model town of Port Sunlight, and we have numerous garden villages in the English coalfields, alongside mines so safe and sanitary that the death-rate is distinctly less than the normal rate amongst the working classes of all occupations. In India we have a striking example of humane and intelligent treatment of labor at the Giridih collieries. Mr. T. H. Ward, the former General Manager of the collieries, did a great deal to develop the system which is now proving so successful, and has led to this colliery having a larger proportion of permanently settled labor than any other in India, although the wages are not high. The people are settled in villages, each man having a field of about one-third of an acre around his house which he builds of mud—three or four rooms round a courtyard, the company providing woodwork and tiles. Prizes are given annually for the best kept house and garden, and the result is surprisingly good.

I maintain, therefore, that the right attitude is not to wish to abolish the factory system, or try to stifle its growth; but to try to humanize it by a careful study of the needs of the workers. If the same intelligence and mental labor were devoted to looking after the workers and promoting their efficiency as is now usually devoted to the improvement and care of the machinery, the factory system would cease to be a social evil. It could be made, I believe, by further study a great social and educational force tending towards progress. Since a large part of every person's life, save the mother's, must be devoted to work of some kind, it is through the conditions of employment and the mode of living it dictates that the proper influences tending towards the educational and social uplift of the people can be most effectively applied.

Let me come now to the question of how the labor supply for large-scale industries in India is to be increased. There are three conceivable ways of effecting an increase :—

(1) By compulsion.

(2) By attracting people to the towns.

(3) By forcing a certain proportion of the population to leave the congested agricultural districts by effecting a redistribution of cultivated holdings and enlarging their size.

The first method, forced labour, is, I believe, resorted to here and there in the Native States when there is a shortage of labor; but it is absolutely out of the question in British India.

The second method of attracting workers to the towns from the rural districts could be undertaken in two ways :—

(1) By offering higher wages than are now paid.

(2) By greatly improving the conditions of life in the towns, so that workers from the country may find it congenial to settle there permanently.

I have already given reasons why the raising of wages would not have much effect within the short period in increasing the supply; and although it would doubtless have some effect in the long period,

a new industry cannot stand the present financial burden of such a policy. Consequently I am driven to the conclusion that our main line of progress must be the improvement of the conditions of life in the towns which are destined by their situation to be great centres of industry. The great majority of Indian cities are miserable places for the poorer classes to live in. They must live huddled together in squalid dirty surroundings, can only with great difficulty maintain their personal cleanliness and family customs; and then there is always the risk of plague and other deadly diseases.

In a village on the other hand a family can live in a cottage of several rooms very cheaply built, and surrounded by a little compound of its own, thus ensuring privacy. It is easy to keep the house clean and neat. The sanitary practices being natural, are not offensive. Hence, there are many good things of life which a family gives up if it goes to settle permanently in an Indian city.

But with intelligent town planning this need not be so. Extensive garden suburbs should be laid out around the cities with areas in which the factories can be located with railway sidings and other conveniences. Carefully planned and roomy workmen's dwellings should be constructed of pleasantly artistic design and with all the requirements of health and social custom. This in my opinion should be a duty of the State, to the extent of securing facilities for land and for the necessary finance For many years past in England Government has granted loans at a particularly low rate of interest for workmen's houses which are to be built at above a certain standard of comfort, and the same could be done here. As in England the loans could be made to municipalities, to co-operative housing societies, and to employers themselves direct so that every source of initiative and organization might be tapped. This subject in itself is a very big one and it is only possible for me to indicate this as being to my mind the right and necessary line of action, if our aim is, as I maintain it must be, to secure a happy contented permanently settled industrial population in our

towns. The present system of working the mills and factories by means of a floating population of seasonal migrants, spells inefficiency and waste in every direction, and it needs bringing to an end by energetic public action.

The third method which I mentioned needs some explanation. I referred to forcing some of the population to leave the congested agricultural districts and go to the towns. This is a measure of reform which I have been studying lately in connection with the improvement of agriculture by consolidating into compact holdings the scattered fields which a man now cultivates. This measure will promote an agricultural revolution and will itself help to promote the establishment of large-scale Indian industries in two ways: first by stimulating the demand for manufactured commodities, and secondly by rendering labor in the rural districts redundant. This last will happen because labor-saving machinery can be applied when the holdings are consolidated. Hence there will be a surplus of population in rural districts, a part of which, if we have improved our towns in the meantime, may be transferred to new industries by the agency of Government labor bureaus.

In conclusion I would like to say that this brief sketch of a very big subject is intended only to indicate some ideas relating to what I believe is the best way of overcoming the labor difficulties in India. It remains for all Indians with public spirit, and particularly for those who are economists, to follow up these lines of thought, so that each may contribute to the full extent of his ability to the right solution of the labor question on humanist lines. Such studies and such experiments as they may make along liberal lines after due inquiry, cannot fail to be of the utmost service to the future of their country.

H. S. JEVONS.

THE DEVELOPMENT OF SAVINGS BANKS.

(Paper read at the Bengal Economic Conference.)

In this paper I propose to lay before the Conference a brief description of some experimental operations that are being carried on in the Mysore State for affording greater facilities to the people in the matter of investing their savings.

2. The institutions of the nature of Savings Banks which have existed in the State for many years past fall under three classes :—

(*a*) Postal Savings Banks under the Government of India Postal Department.

(*b*) Mysore Government Treasury Savings Banks.

(*c*) Co-operative Societies.

3. The members of this Conference must be familiar with the nature of Postal Savings Banks in British India. The Postal Savings Banks in the Mysore State are exactly similar and work under the same rules.

There were 210 Postal Savings Banks within the State in June 1917, and the number is more or less stationary.

4. The rules of the Mysore Government Treasury Savings Banks are somewhat different. There are 68 of these Savings Banks within the State, namely, at the eight district headquarters and the sixty taluk headquarters in the interior. In these Banks there is no maximum limit to individual deposits or deposits which may be made in an account during the course of a year. The rate of interest was hitherto 3½ per cent. per annum but these rates have recently been raised to 4 per cent. per annum in the case of money lying in the treasury for more than six months during the year and

to 5 per cent. in the case of amounts lying in the treasury throughout the year.

5. At the end of November 1917, there were 1,011 Co-operative Institutions of all kinds in the State, and in most of these facilities were afforded for depositing savings.

6. The area of the Mysore State is 29,475 square miles, and the population of the State, according to the Census of 1911, is 58 lakhs. The number of villages in the State is about 15,000. In these circumstances, it was felt about three years ago that there was considerable room for improving the facilities afforded to people for investing their savings and experiments which form the subject-matter of this paper were initiated.

7. After the proposals were initiated they were first considered in the Industries and Commerce Committee of the Mysore Economic Conference and then at annual sessions of the Conference itself. As the result of these discussions the following three schemes have been sanctioned by the Government of His Highness the Maharaja of Mysore:—

(*a*) Village Savings Banks.

(*b*) Savings Associations for public offices, schools, factories, etc.

(*c*) Collecting Savings Banks.

Work has been started under each of these three schemes. A brief description of such work done under each of the heads is given below.

VILLAGE SAVINGS BANKS.

8. These Banks are feeders to the Government Treasury Savings Banks and are Government Institutions placed in charge of reliable persons—officials or non-officials—who do not receive any salary but are paid by commission the amount of which depends on the volume of business transacted. The nature of the Village Savings Banks in Mysore will be clearly understood from the following abstract of the rules for the working of such Banks.

Any person who has not got a Savings Bank account of his own in any Government Treasury in Mysore may deposit money in a Village Savings Banks on his own behalf; if he has an account in a Government Treasury, he may nevertheless open another on behalf of every minor of whom he is the guardian as defined in the Mysore Government Savings Bank Rules in force from time to time.

Any sum which is not less than one anna or which does not involve fractions of an anna may be deposited. There is no maximum limit to the amount that may be deposited in a year or to the amount that may be held at any time by a depositor.

When a villager wants to open an account, he fills in an Index Card and gives it to the person in charge of the Village Savings Bank. The latter sees that the form is correctly filled in and examines the money brought by the depositor. The money is dropped, either by the depositor himself or by the person in charge in the presence of the depositor, into the Government box kept at the Bank.

Subsequent deposits are dealt with similarly; but fresh Index Cards are not taken in the case of subsequent deposits.

A depositor having an account in a Village Savings Bank may, in urgent cases, deposit money in the Government Treasury to which the Bank is attached.

As often as possible and once at least every month, on or before the 4th of the month, the person in charge of the Savings Bank takes the box to the Treasury at Taluk Headquarters where the money is taken over. The box is returned to the officer of the Bank duly locked and sealed.

For withdrawals, a withdrawal form duly signed by the depositor is made over to the person in charge of the Bank. The latter draws the required amount on such withdrawal forms after they are duly countersigned by him when he next goes to the Treasury in the ordinary course. On his return to the village he pays the amount to the depositors.

In urgent cases, the depositor himself may go to the Treasury and withdraw money.

Where the persons in charge are so empowered by the Taluk or District Treasury Officer concerned, they may make small repayments not exceeding one rupee a month to each depositor.

Withdrawals are not allowed for less than annas four.

The name of the person placed in charge of each Village Bank is notified in the *Mysore Gazette.*

An honorarium of annas eight for each rupee of interest accruing in his Bank is paid to the person in charge of a Village Savings Bank once a year.

The Bank accounts are kept entirely separate from other accounts of the person in charge of the Bank and Savings Bank money is never mixed up with other moneys.

9. Up to date, the opening of 103 Village Savings Banks has been sanctioned. Of these 36 have started work. These Banks are started in villages selected by the District Officer. A trustworthy person enjoying the confidence of the villagers is also nominated by the District Officer to be the officer in charge of the Village Savings Bank and his appointment is confirmed by Government and notified in the official *Gazette.* Each Savings Bank is provided with a substantial iron receptacle and a small steel box to be placed inside the receptacle. The form of this receptacle was designed by the Superintending Engineer, in charge of the Public Works Workshop in Bangalore. It is made of cast iron and consists of a circular box 22½ inches in diameter and 10 inches high supported on three cast iron legs of ornamental design. The bottom of the box stands at a height of 29 inches from the ground. The vertical side of the receptacle has a hinged door about 8 inches by 7 inches which is secured by a good padlock and through which the Bank box is put in and taken out. The cylindrical part of the receptacle is made of sheet iron and its circular top consists of an artistic design in cast iron with perforations through which the box inside can be seen. The box measures

10½ inches by 6½ inches by 5¼ inches and is made of steel sheets. It is provided with a good padlock, the key of which is kept by the treasury and is never given to the officer in charge of the Village Savings Bank. The box locked and sealed at the treasury is placed inside the receptacle by the officer in charge who has the key of the padlock of the receptacle. The receptacle has got an opening in the centre of its circular top through which a depositor can put his hand and drop the deposit money into the box inside. On the receptacle the words "Mysore Government Village Savings Bank" are cast in brass in large letters round the opening in the centre of the circular top and a plate in brass on which the names of the village, taluk and district, are engraved in English is also screwed on the top. On the cylindrical portion of the receptacle, the names of the village, taluk and district are painted in prominent vernacular characters. On the inner box, the names of the village, taluk and district are painted in English and Vernacular characters.

10. The reason why only 38 out of the 103 Village Savings Banks sanctioned by Government have actually started work is that it takes some time to have the receptacle ready and to send a fitter with the receptacle to fit it up at the village. The receptacles are made in the State Public Works Workshops in Bangalore and the design is such as to infuse confidence in the villagers. The object is to make them feel that the Village Savings Banks are Government institutions and by putting money with their own hands in the boxes they are depositing it with the *Sarkar*. According to the latest available figures the number of depositors in the Village Savings Banks is 107 and the amount deposited is Rs. 1,299-14-2.

SAVINGS ASSOCIATIONS.

11. These associations are nothing but a means for establishing a joint savings bank account in the treasury on behalf of all the persons connected with a particular office, factory, school or other institution with the greatest possible facilities for effecting

deposits and withdrawals. The account system is very simple, there being no receipts, vouchers, or pass-books, the member's signature in the ledger affixed at the time of the transaction being taken as sufficient for all purposes. The nature of these institutions will be clear from the abstract of the rules for working them given below.

All members of an office or an institution including officers, accountants, clerks and menials may deposit money in their own names, notwithstanding the fact that they possess their own Savings Bank Accounts in the District or Taluk Savings Banks.

Any sum not less than four annas and not involving a fraction of an anna and not more than Rs. 10 may be deposited at a time. But there is no limit to the amount that may be tendered as first deposit, or to the aggregate amount that may be held at the credit of a depositor.

The sums deposited from time to time are held in the name of the depositor and are repayable to him with interest, either wholly or in part, as may be required.

Interest is allowed on the deposits at Government Savings Bank rates for the time being.

At the beginning of each month, when pay is disbursed in the office, a clerk is seated near the place of disbursement who receives all sums paid for deposit and who enters the amounts received in a cash book and simultaneously in the ledger folio of the party concerned. The depositor signs his name in the ledger in token of his being satisfied that the amount tendered by him is brought on the accounts. No receipts are given in acknowledgment of the amount. The Association clerk is also available on other days of the month to receive such sums as may be deposited.

A depositor may withdraw any sum not involving fractions of an anna at any time on any day during business hours. Such withdrawal is entered in the cash book by the clerk and noted simultaneously in the ledger where the party signs against the

entry in acknowledgment of the amount withdrawn. He is not required to furnish any other receipt.

A depositor may examine the ledger folio relating to his account at any time and satisfy himself that the balance shewn in his account is correctly entered. Each depositor is recommended to do so at least once a month and to record a certificate to that effect over his signature in the column of remarks.

All sums collected are remitted to the treasury and deposited in the Government Savings Bank in an account opened in the name of the head of the office or institution. The Pass Book relating to this account remains in the custody of the officer in charge.

12. There is a similar set of rules for the working of Savings Associations in schools. The chief difference in the case of these rules is a special provision for such of the pupils as are too young to be able to keep a watch over their accounts by personal inspection of and signing in the ledgers of the Association. A separate Pass Book is given to each young pupil which he may take home for scrutiny by his guardian. The pupil is also required to produce the Pass Book every time he withdraws money so that money cannot be withdrawn without the knowledge of the guardian. This rule regarding the supply of Pass Book applies only to very young pupils. The students of the higher forms in School Savings Associations are required to watch their deposit accounts through the ledger kept in the school in the same way as employees in offices do in their Savings Associations.

13. The scheme of Savings Association was sanction by His Highness' Government in March 1916. Some time was taken up in printing and distributing the forms and the scheme was practically brought into operation from 1st July 1916. The number of Savings Associations which have been furnished with registers for starting work is at the present time 194 of which 164 are already working.

The total membership of the 164 Associations which have started work is about 10,800. The total amount of deposits

received up to the end of September 1917 was Rs. 25,612 out of which Rs. 10,516 belonged to School Associations.

The rapid growth in the number, membership and deposits of the Savings Associations in Mysore clearly shews that the institutions have met a genuine and widely felt want and that there is scope for such institutions being started in very large numbers in other parts of India.

COLLECTING SAVINGS BANKS.

14. The third class of institutions started in the course of these experiments is the "Collecting Savings Bank." In the Bangalore City, there was hitherto only one Government Savings Bank at the District Treasury and a large proportion of the public did not find it convenient to go and wait there to deposit or withdraw money. Therefore the establishment of a Collecting Savings Bank was deemed necessary to afford the public full facilities to lay by their savings, however small, and thereby foster their habits of economy and thrift. A summary of the more important rules for the working of the Bangalore City Collecting Savings Bank is given below from which the nature and functions of such institutions will be clear.

The Collecting Savings Bank, Bangalore City, is a branch of the District Savings Bank and has its office at the premises of the District Savings Bank.

It is in immediate charge of an official of known probity and established character, called collector or helper, who works under the control of the Officer in charge of the District Savings Bank. He is provided with a distinctive uniform and a letter of authority signed by the Deputy Commissioner, duly specifying his duties in English and Kannada.

When necessary, more than one official will be employed each with separate jurisdiction.

The city and its extensions have been divided into convenient circles and the helper conducts business at specified places in different circles in different days of the week from 7 to 10 A.M.

The helper also visits on specified days private residences of persons who require him to do so to help them depositing or withdrawing money.

He also visits all small offices, institutions and factories, as often as possible and at least once a week, between 3 and 5 P.M. He selects for the purpose pay days in offices and factories as far as possible.

A depositor may, irrespective of his place of residence, transact business with the helper in any and every place of business during business hours.

All persons having Savings Banks Accounts of their own or on behalf of minors in the District Savings Bank, as also those who intend to open accounts either on their own behalf or on behalf of minors, may transact business through the Collecting Savings Bank in exactly the same manner as they would do at the District Savings Bank under the rules of the Mysore Government Savings Bank in force from time to time.

Any sum which is not less than one anna or which does not involve fractions of an anna may be deposited. There is no limit to the amount that may be deposited in a year or to the amount that may be held at any time by a depositor.

When a person wants to open an account, he fills in an index card and gives it to the helper. The latter sees that the form is correctly filled in and examines the money brought by the depositor.

The money is then dropped into the Government box kept by the helper. Detailed instructions are given for the issue and use of Pass Books and receipts.

When a depositor wants to withdraw money, he gives the helper his Pass Book together with a withdrawal form duly signed by him noting the particulars required.

The helper forthwith returns the Pass Book to him after verifying from it that the amount required is at the credit of the depositor He draws the money on such withdrawal form from the Treasury and pays it to the depositor when he next meets him either by

appointment or in the ordinary course of business making the necessary entries in the Pass Book.

The helper attends the District Savings Bank between 2 and 3 P.M. every day except on Sundays and holidays where the money collected is taken over from the box and credited to the several depositors' accounts.

To meet urgent but small demands of Rs. 10 and under of depositors who cannot wait till the Collector can meet them again, the Collector is provided with an imprest which he may recoup every day at the Treasury on presentation of withdrawal forms the amounts of which he has paid.

15. Only one institution of this kind has been started, namely, that in the Bangalore City. It started work in November 1916, that is about thirteen months ago. The number of depositors in the Collecting Savings Bank is 852. The total amount received is about Rs. 33,200 and the amount repaid is only a few hundred rupees. The Official in charge of the Collecting Savings Bank works directly under the Officer in charge of the District Savings Bank, Bangalore. He has a special uniform and has already become a familiar figure in many parts of the City, specially in those inhabited by the poorer classes.

GENERAL REMARKS.

16. In describing the working of Village Savings Banks, Savings Associations and Collecting Savings Banks, I have only given a very brief outline of the important rules relating to their working. Printed copies of rules for the working of each class of institutions in English and in vernacular have been placed on the table for the use of such members as may wish to consult them. Copies of them can be had by persons interested in such schemes on application to the Comptroller to the Government of His Highness the Maharaja of Mysore.

17. I shall now offer a few general observations on the usefulness of institutions of this kind in the peculiar economic circumstances of India. All over India the income of the average

villager is small. This small income, moreover, comes to him in irregular and unequal instalments. But he has no facilities for safely depositing this small income, secure a uniform flow from it to meet his requirements during the year, and make it go the greatest length for satisfying his wants. If he gets some cash in hand he is forced to hoard it or is tempted to spend it in a way not altogether wholesome in many cases, necessitating borrowing when he again wants money. The scheme of Village Savings Banks is intended to protect villagers from such temptations and to prevent the necessity for such hoarding by burying or otherwise. It aims at providing him with a safe place for keeping his money so that he can get it back when he wants it with a little interest. It is for encouraging in him the habits of prudence and thrift.

18. The scheme of Village Savings Banks was very carefully considered in consultation with the Registrar of Co-operative Societies in Mysore and co-ordinated to the activities of his department. Accordingly it has been decided that in villages in which facilities already exist for all people to deposit savings through co-operative organizations or otherwise, Government Village Savings Banks should not be started. It has also been settled that if any co-operative society applies for taking up the working of a Village Savings Bank already established and if the Registrar of Co-operative Societies recommends the application, it should be sanctioned. The scheme of Village Savings Banks does not therefore clash with the co-operative movement but supplements it.

19. In more advanced countries, where post offices are numerous and banking business is well developed the postal savings banks and branches of private and joint-stock banks secure the object in view to a great extent.

In England there are two classes of savings banks in operation —the Trustee Savings Banks which are older and the Post Office Savings Banks introduced by Gladstone on the advice of Sir Charles Sikes in 1861. France, Belgium, Switzerland, Spain, Italy and

many other countries have extensive system of savings banks in operation. "In the colonies the savings banks have also for many years past been an important factor in the welfare of the people, the two systems of banks, *viz.*, Trustee and Post Office, in some places working side by side as in the mother country." (Alex. Cargill in Encyclopaedia of Accounting.)

20. Regarding the English and Canadian Post Office Savings Banks it has been said: "In England these banks are everywhere, and will accept small deposits from every one wishing to pay them in. Because of the existence of the postal banks, hardly any person lives more than two or three miles from a confidence inspiring depository.

"In Canada also the post office banks have served a useful purpose. All post offices that are money order offices are postal savings banks." (Eckardt's Rational Banking System, page 252)

21. In the United States there were no postal savings banks till 1910, but their place was taken by numerous branches of chartered banks. In spite of great development in the United States of private and joint-stock banking, many people urged the opening of small savings banks by the State through the postal department or otherwise.

In response to such popular feeling, postal savings banks were authorised in the United States in 1910. If such is the case in an advanced country, like the United States, where people are mostly educated and active, and can be expected to take some initiative themselves in arranging for the safe deposit of their savings, the necessity for the State providing safe deposit banks for the people in all parts, in a country like India, must be apparent.

22. In the present educational and economic state of the country the number of post offices is, and for a long time will be, limited. But safe deposit places for the people to keep their savings are required everywhere. In this view a scheme of Village Savings Banks is very necessary.

23. That a scheme of Feeder Institutions to the Post Office or Treasury Savings Banks is useful and beneficial even in countries where post offices are very numerous, will appear from the fact that innumerable penny banks, school savings banks and collecting savings banks have sprung up and are working in the United Kingdom. In France tens of thousands of School Savings Banks have been established in a few years.

24. It may be said that our system of Village Savings Banks does not afford facility for withdrawing money at once when required. That is quite true, but it is not a great draw-back in the system. In Savings Banks, depositing money should be as easy as possible; but withdrawal, though easy enough for all serious purposes, should not be too easy. In our Taluk Savings Banks as well as in the British Indian Postal Savings Banks only a limited number of withdrawals is allowed in a month. The same is the case in the Village Savings Bank. In fact, it is recognised all over the world, that, if we are to have savings banks in large numbers, spread over the rural areas, it is not possible to keep complete cash and accounts staff in each bank so as to make repayments at a moment's notice. Thus in respect of Canada it is said "In order to operate the Post Office Savings Banks economically it is necessary to centralize the Book-keeping and clerical work at Ottawa. The hundreds of Post Masters who accept deposit from the people have nothing to do with the books or the investments of the funds. When a deposit is received the Post Master merely enters it in the customer's Pass Book and sends the cash to Ottava. When he wishes to withdraw part or all of his funds, the depositor goes to his local Post Master and signs a requisition or withdrawal order for the sum he desires to withdraw. The Post Master sends it to Ottawa and in the course of a few days a Government cheque on the Ottawa branch of the Bank of Montreal will be received by the depositor, who thereupon takes his cheque to a chartered bank and gets the money.

"If the business were done in another manner—if, for example, the ledgers and other necessary books were kept at the post offices and cash provided to enable the Post Master to pay withdrawal cheques immediately on presentation—the expenses of conducting the banking operations would rise to prohibitive figures and in all probability there would be numerous defalcations discovered every year. Thus the enforced delay of two, three or more days, when a depositor undertakes to withdraw his money, is something that cannot well be obviated." (Eckardt's Rational Banking System, page 253.)

In the scheme adopted in Mysore, we do not concentrate the whole work at Bangalore, but each Taluk Office is the centre of cash and accounts work in respect of all Village Savings Banks within the taluk. In cases of emergency the depositor has the option of himself coming to the Taluk Office and withdrawing. So it will be seen that, in respect of facilities for withdrawing, the scheme goes as far as is possible and desirable

25. The system of collection of savings in a locked box with aperture is not a new idea. In what are known as the "Home Banks" in many advanced countries, such a method is employed with great success. "A Home Bank" consists of a small iron box, or diminutive 'safe,' with an aperture on the side, through which coins may be slipped dropping into an inner compartment which is firmly secured by a catch. The box is served out locked and the bank retains the key. The idea is, that people will slip in money when they have got it, and will then be prevented by the secure closing of the box from taking it out again. After a time they carry the box bodily to the Bank (it is very small) to have the contents taken out and credited to their account. It says something for the thrifty instincts of human nature that very considerable sums are reported to have been collected in this way.

Our system of Village Savings Bank is a local adaptation of the Home Bank the boxes being placed in the villages in charge of

the headman or any other trusted individual selected by Government, for the use of all villagers.

26. Some people apprehend that the system of Village Savings Banks may clash with the co-operative movement. There is no valid ground for such apprehension. I have already stated how in Mysore we have practically co-ordinated the two schemes. Wolff has very lucidly and forcibly argued the point and proved that a well organized system of savings banks should not injure the co-operative movement. As one of the greatest advocates of co-operation he of course likes the people's savings going into co-operative banks rather than to State's savings banks. No one will deny that he is right and our scheme therefore has been framed so as to help, supplement, or prepare the way for the co-operative movement, rather than to compete with it. The following remarks of Wolff shew that under proper management and guidance co-operative banks and savings banks do not compete with and injure each other, but by encouraging thrift in a greater degree amongst the people, really help each other.

"Here is the solution of the difficulty! By the side of our old useful but quite unduly treasury-ridden savings banks, which no one will want to see abolished, since there must always be great use for them, we want free, unbound co-operative banks, to receive savings as well. Co-operators who desire co-operative savings departments established need not fear that there will be want of employment for the money collected. There is sure to be plenty. Nor need our savings banks apprehend that, by the side of their younger sisters, they will find their occupations gone. In Italy and other countries *savings banks still continue to grow, and those who are wise among their administrators rejoice in the fact that there is more saving in consequence of the co-operative banks having taken the field.*"

27. Owing to war conditions it has become necessary to make all savings in the hands of the people available as far as practicable to the Government of India for helping in the prosecution of the

war. Various attractive forms of investment to suit all classes of people and with an unprecedentedly high rate of interest have come into existence. The Mysore Government have done their best to secure for the War Loan the savings of the people as far as practicable. Only such savings as could not be invested in securities are in post office cash certificates remain in our savings banks. In these circumstances it cannot be said that the three schemes referred to in this paper have had a fair trial in the short time they have been in existence. But in spite of the unfavourable circumstances the success and popularity attained in respect of these schemes cannot but be regarded as remarkable. There can be no doubt that in normal times their success would have been much more marked. In any case, it may be claimed that the result so far have been satisfactory and encouraging and that the institutions concerned give fair promise to become in course of time a source of great economic benefit and advantage to the people.

J. S. CHAKRAVARTI.

THE EARLY HISTORY OF THE TEA INDUSTRY IN NORTH-EAST INDIA.

II.

In my last article I traced the history of the tea industry in North-East India to the time when tea from the plantations in Assam was really on the market. This point was reached by the end of 1838 or the beginning of 1839, though the public were hardly satisfied of the soundness of the undertaking till a year or so later. At that time it must be remembered the whole of the so-called plantations in the Assam Valley, chiefly consisting of groups of indigenous tea plants in the jungle which had been cleared of other growth and weeds and had been cut down so as to form leaf-bearing bushes, were in the hands of Government under a Superintendent of tea culture. This Superintendent, Mr. C. A. Bruce, the real founder of tea cultivation in Assam, had opened out such areas in many places. Many of his gardens were near Dibrugarh, more near the Tingri and other smaller rivers in Upper Assam, others were at the foot of the Naga hills as far to the south-east as the well-known garden of Gabro Purbut.

All that had been proved, however, by 1839 was that tea would grow, and that commercial tea could be made for which a market existed in London. But the matter was getting beyond the stage at which the Government wished to control it. Their idea was only to prove its success and then hand it over to private enterprise. Early in 1839, hence, both in Calcutta and London, a number of capitalists apparently approached Government for the transfer of the existing plantations to themselves and for the creation of a monopoly of tea cultivation in the Assam Valley in their favour.

The first move was made in Calcutta, where a company termed the Bengal Tea Association was formed in February 1839, with the approbation of the Government.[1] Almost immediately after another company of London merchants came forward for the same purpose. The *Times*, in April 1839, wrote as follows :—" A joint stock company is forming in city for the purpose of cultivating the newly discovered tea plant in Assam. Their intention is, in the first instance, to open a treaty with the supreme Government in India for the purchase of the East India Company's plantations and establishments in Assam, and afterwards to carry on the cultivation of tea there, for the purpose of importing it into this country. The project has been taken up with so much avidity, principally by the mercantile houses trading with India and the leading firms in the tea trade that all the shares were appropriated in a few days and before any public notice of it had appeared. The capital to be raised is £500,000 and it is stated that a communication has already been opened with the Board of Trade and the East India Company, preparatory to a negotiation for the purchase of the Assam territory."

The two—that is to say the Calcutta and the London companies—combined their forces almost immediately. It was obvious that at the stage things had reached there was no room for two such ventures and by the middle of 1839 they had agreed to join interests. This was suggested, as was stated in a meeting of the Calcutta branch,[2] in order that " the junction of such interests as were now combined would induce His Honour in Council to consider that no better guarantee could be given to the Government of Bengal for the early establishment of this important trade upon a bold and energetic scale." At this meeting a resolution was passed " that the Bengal Tea Association do form a junction with the London company on condition that the local management be conducted by a committee of directors to be elected exclusively in this country."

[1] *Englishman*, June 29th, 1839.

[2] On May 30th, 1839

Thus was originated the peculiar constitution of the pioneer tea company—the Assam Company—in its early days whereby it had two controlling bodies—one in London and another in Calcutta,—an arrangement which seems almost to have invited disaster.

In the meantime, the formation of the Assam Company in London, though it received the approval of the heads of the East India Company, did not do so without opposition. This was apparently partly due to a fear that the Company would be given a monopoly, and partly to a belief that it had been engineered for reasons not given out to the world. At a meeting of the proprietors of the East India Company (June 19th, 1839) the opposition was led by Sir Charles Forbes, and he got an assurance that no exclusive privilege in Assam would be granted to the Company. This did not satisfy him, however, and he stated that "he feared, although they were told of the immense advantage which must result from this plan, although it was said that the people of this country, as well as the people of India, Mahomedans and Hindoos, would profit to an infinite extent by this scheme,—that it, notwithstanding, would all turn out to be a humbug."[3]

It was recognised that apart from actual technical difficulties in the cultivation and manufacture which were not, as we shall see later, sufficiently considered at the time, the chief obstacles to the success of a truly commercial enterprise were the lack of labour and capital. Captain Jenkins, the administrator of Assam, described the country as a land flowing with milk and honey, with provisions abundant and easily procured, and only lacking these two necessaries. The capital was now provided by the Assam Company, the lack of labour remained, and as we know, has remained almost till to-day one of the chief obstacles to the development of the tea industry.

It was well, however, that the difficulties in the provision of labour and in the technical management of tea gardens and the

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[3] Asiatic Journal. Meeting held June 19th, 1839.

manufacture of tea were not fully realised by the promoters of the proposed company. As it was, there was much enthusiasm both in London and Calcutta, and as a result of the union of the two sets of interests, the Government agreed to hand over two-thirds of the experimental tea gardens in Assam to the new company. This being the case, a "deed of settlement" was made among the subscribers to the Company to remain in force until a charter or an act of Parliament was passed constituting them a company as was the usual custom in those days.

The organisation of the Company was peculiar. As already stated it had a double board of directors whose powers were divided as follows. The duties of the Calcutta local directors were "the local management of affairs in India in the purchasing, improving, and clearing lands in Assam and elsewhere in India and of buying, renting, or building necessary warehouses, offices, and other buildings in India and in obtaining, employing and removing officers, managers, clerks, servants, labourers and generally in superintending and conducting all the business and affairs of the Company there, and fulfilling contracts for that purpose. "Provided always," as the deed goes on to say, "that they shall in all respects conform to these presents and any rules and regulations made by a general meeting . . . . and any directions for their guidance given by the General Directory of the Company."[4]

The Company having been formed, two-thirds of the experimental plantations in Assam were handed over to the Company on March 1840, and Mr. Bruce joined them as Superintendent of the Northern Division with headquarters at Jaipur. The other division of the Company's plantations had its headquarters at "Nazeerah"[5] which has remained to this day the headquarters of the Company. A gentleman named Masters was appointed as Superintendent of this division. The arrangement with Government was that the lands were to be occupied for the first ten years

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[4] Report Assam Co., for 1840 (London), dated May 7th, 1841.
[5] Now generally written Nazira.

rent free, and at the end of this time the assessments were not to be higher than for rice lands generally. The cultivation of the poppy for opium was entirely prohibited.

Labour difficulties began from the first day. Bruce had used local labour, aided by a few Chinese. But in the first report from Masters it was stated that there was little local labour, but that the Assamese were beginning to work, "and for the important art of tea manufacture, they seem particularly adapted, and likely to supply eventually all the labour that will be required."[6] This was obviously, however, not enough and great efforts were made to get labourers from outside. It must never be forgotten that Assam had been almost depopulated before it came under British protection by civil war and by an invasion from Burma. Any large enterprise had therefore in a very large measure to provide its own labour.

The first attempt to fill this need was by the import of Chinese coolies. A large number of Chinese coolies were brought round from Singapore, but "they were selected without discretion. Every man with a tail was supposed to be qualified to cultivate, manipulate, and prepare tea. They were sent up without adequate control. At Pabna they quarrelled with the natives, or the natives with them: some sixty were captured by the magistrate, and consigned to jail, and the rest refused to proceed without their brethren. Their agreements were therefore cancelled and they returned to Calcutta committing depredations in their progress. On their arrival in the city of Palaces, they seemed to revenge themselves on society, for the papers were daily filled with police reports of the outrages they committed. They were at length caught and sent off to the Isle of France, the planters of which will doubtless consider that it is an ill wind, indeed, which blows no one any good."[7] The London report of the Assam Company put it more shortly when it said that the Calcutta Board imported "several hundreds of Chinese." "These men turned out to be of a very bad character; they were turbulent,

[6] Letter quoted in report dated May 7th, 1841 (London).
[7] *Friend of India*, September 9th, 1841.

obstinate, and rapacious. Indeed they committed excesses which on occasions endangered the lives of the people among whom we had sent them, and it was found almost impossible to govern them. So injurious did they seem likely to prove that their contracts were cancelled and the whole gang with the exception of the most expert tea makers dismissed." Thus ended the first attempt to bring Chinese labour to the Indian tea plantations.

But labour had to be obtained if development was to go on, and hence a large number of "Dhangar Coles" were recruited. But misfortune dogged the footsteps of the pioneers. Cholera broke out among six hundred and fifty-two of them who were proceeding to Assam, and the survivors disappeared in one night and no trace of them was ever found. Labourers from Chittagong were also useless. And among such coolies as were on the plantations in Assam, the mortality was very high indeed. Deaths occurred with appalling frequency also among the European and other planters. In the first year the Company lost the services of Dr. Lumqua, a Chinese doctor long established in Calcutta who had consented to assist the Company in its early stages in Assam and of four Europeans from its small staff. The Assam Company, indeed, began very early to feel the difficulties of climate and of labour supply which have been among the greatest which the industry has had to fight.

The absolutely unoccupied character of the country, at any rate in the area worked from Nazira is illustrated by two letters from Masters. In the first of these he says "I have now been in this district eighteen months, and know comparatively little about it, owing to the dense tree forest and coarse high grass jungle with which the land is all overrun, so that when travelling one can see nothing but what lies in his immediate route and I am continually finding fresh patches of ground occupied by the sites of former villages or gardens or temples or tanks of beautiful water or small patches of tea plants and immense tracts of waste land." A second letter illustrates another aspect of condition. "It was with great

difficulty that I could procure elephants when I first came here: I could not purchase one at any rate. . . . A herd of elephants, however, having gone off from Jorehaut in that direction" (towards Gabro) "they were followed and thirteen of them secured."

Nevertheless in spite of the labour and health difficulties the Company had a considerable area of tea in cultivation by the end of 1840, and at the annual meeting in Calcutta (August 12th, 1841) there was stated to be 2638 acres in actual production. The production was, however, by no means intense, for the average number of plants per acre was only 457! As has already been indicated, most of the area consisted of groups of tea plants found in the jungle, cleared and cut down for leaf yielding. The total amount of tea made this year was 10,712lbs. The cost had, however, been enormous up to the end of 1840. £65,457 had been sent to India from London. Naturally a good deal of this had, however, been absorbed in capital expenditure. A steam boat had been built and purchased in Calcutta of which we shall hear later. A saw mill had been sent to Assam, to be set up at Jaipur, and no less than Rs. 1,23,275 is put down in the Calcutta Board's report for "Labour, lost and unproductive."

At this stage the Company was still sanguine in spite of difficulties, and they ventured to estimate production in future years, as rising to 40,000lbs. in 1841 and to 320,000lbs. in 1845![8] We shall see how this estimate was falsified in every particular.

The condition of the whole enterprise at this time, the way in which the management was in the hands of their Chinese tea makers, and the unsatisfactory character of the European assistants sent to Assam are well shown in the following quotations from letters from Mr. Masters. On February 12th, 1842, he writes to the Directors:—"You will please to observe that these tea makers (Chinese) are very great gentlemen; even those who receive but Rs. 3 per month consider themselves so, and object to do anything

[8] Calcutta Board Report, Assam Co., published in *Friend of India*, September 9th, 1841. The Shareholders' meeting was held on August 11th, 1841.

else but make tea. When spoken to, they threaten to leave the service if they are insulted by being asked to work. Gradually this will wear away as we shall soon have them under our control, and if they continue saucy, we may take a convenient opportunity of making a strike for two or three months, and when they lose their pay, they will probably become sensible that they are dependent on the Assam Company for their livelihood." Mr Masters hardly gives one the idea of a tactful manager!

With regard to the European assistants who had been sent he wrote in another letter. "Hitherto I have been overwhelmed with assistants many of whom have been unaccustomed to agricultural employment, but the greatest inconvenience attending the assistant establishment is the unhealthiness of the climate; it so often happens that after much difficulty has been experienced, and the assistant is becoming acquainted with his duty, and he and the natives are becoming a little reconciled, the assistant falls sick, and is obliged to leave his post: if another is sent, the same difficulties and inconveniences are repeated .... It must be evident to the Directors that a passionate European entirely ignorant of the language and entirely ignorant of every part of his duty can but be worse than useless." I can quite understand Mr. Master's annoyance, but my sympathy goes out to the young Englishman, landed in a very unhealthy country, absolutely in the jungle, with nothing to relieve the tedium of continually driving coolies to work at a job which neither he nor they understand. When we remember that the amount allowed for an assistant's house was but Rs. 300, that there was no sanitation, and that the unacclimatised European was planted down, and got fever, most probably, before he had been there more than a few days, and was never afterwards really free from it,—we could hardly expect anything but despair, irritability, illness and often a speedy death.

In the second London report,[9] though things are still stated to look promising, there begins to be a doubt. Nothing more is said

[9] Report dated May 9th, 1842.

about the labour question and so we may consider that this is temporarily solved. The kind of gardens at this time is well illustrated by figures given both by Masters and Bruce. I quote some at any rate of the names of the gardens, as they may interest those in Assam at the present time. Gabro Purbut consists of 44 *poorahs*,[10] of which 10 *poorahs* were large plants, 20 *poorahs* middling plants, and 14 *poorahs* small plants and seedlings. Satseia had 213 *poorahs*. Cherideo had 23 *poorahs*. Rokanhabbi had 350 *poorahs* nearly all just planted. Deopani had 20 *poorahs*. All these names will be recognised as being still included in the Assam Company's property. Masters states that he planted his seedlings five feet apart, and he considers that the cost of clearing and planting a *poorah* of tea will be Rs. 100, while the annual cost of upkeep would be Rs. 50 per *poorah*. Taking a *poorah* as 1·21 acres, these will be equal to Rs. 83·3 as capital cost and Rs. 41·7 as annual cost of upkeep, per acre.

In the other division, in the control of Mr. Bruce, the sites of several of the gardens will be recognised as being now in the Tingri Tea Company's estates, and also in the company's working near Jaipur. Kahung had 31 *poorahs* of tea, 11 *poorahs* newly sown. Tingri (including Ballyjan and Tipling) had 34½ *poorahs*. Hoogrijan had 31½ *poorahs*, with an area of newly planted tea. The famous tea seed garden, " Bazaloni " appears in this group in 1841. Near Jaipur we find other gardens whose names still exist. In this section we hear first of the definite planting of China seed. An interesting estimate by Mr. Bruce is that it required one man coolie on Rs. 4 per month to keep one *poorah* of tea in cultivation.

The presage of coming disaster seems to pervade the atmosphere during 1842 and 1843 both in the reports of the Assam Company and in the remarks on the subject in the Calcutta newspapers. There were evidences of mismanagement everywhere. The steamer built for the Company as their means of transit to Assam proved a failure.

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[10] The figure given for the area of a *poorah* varies. It is sometimes spoken of as 3½ acres. In the present report it is given as 1·21 acres which I think is the figure which should be taken in these reports.

"The Assam Tea Company," says the *Friend of India*,[11] after having sent their new steamer on one trip up the Berhampooter, have, on her return, offered her for sale. The cause is not made known,—probably her inability to steam the current of the Berhampooter." The amount of tea made in 1842 was far less than might have been anticipated, and only amounted to 30,000 lbs., while the net cost of the undertaking had been £160,000. Mr. Masters from Assam, evidently feels, from his letters, that there is something unsatisfactory in the methods of tea growing and plucking adopted.

By the latter part of 1843 it was certain that something was amiss. The Calcutta directors sent a commissioner to Assam to see what was wrong.[12] Both Mr. Bruce and Mr. Masters were summarily dismissed, and the report presented for the year 1843 is doleful indeed. "Since we last met," says the report,[13] "your directors have seen much to diminish the confidence which they expressed at the last meeting in the ultimate success of the Company; that confidence was necessarily founded on statements and calculations prepared in the Province where our operations are carried on. These data have since been altered by the parties who supplied them in many material respects, and the produce of the year has fallen short of the estimate in respect to quantity by one-third; at the same time, the current expenses of the Company appeared not to be diminished." They went even further than this, and wrote :—"We have positively forbidden the local board in Calcutta to pass any more bills upon us, and have enjoined them to reduce their expenditure to the level of the means at their immediate command. We can, therefore, safely pledge ourselves that no further call shall be made upon the shareholders until your directors have shown sufficient grounds for recommending you to prosecute the enterprise in which we have embarked with renewed vigour."

The position was truly perilous for the shareholders. But, to all appearances, a change for the better occurred. The Company

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[11] May 19th, 1842.
[12] Mr. J. M. Mackie. He reached Assam in October 1843.
[13] Presented (London) April 23rd. 1844.

had so far *not* been under limited liability. But a special act of Parliament was passed in 1845[14] which settled their position. It was only to last till April 30th, 1854, declared a capital of fifty lakhs of rupees in shares of five hundred rupees. The cultivation of opium, sugar and coffee was prohibited.

In the meantime expenses at least had been reduced, and this was something. The relationship between expenses and yield was as follows :—

	Yield of Tea.	*Expenditure.*
1841.	10,505 lbs.	£12,984
1842.	31,398 „	£16,560
1843.	87,705 „	£13,146
1844.	120,422 „	£7,284

This so pleased the directors that they very foolishly, as is now clear, declared a dividend of 10*s*. per share in January 1846, though no profit whatever had been made. This was the only dividend the shareholders saw till 1852.

There seems, however, to have been a renewed burst of confidence as a result of the full incorporation of the Company, and of the reduction of expenditure. This spread to the East India Company. Their experiments now having reached what they considered to be a complete success, they now decided to withdraw entirely from their connection with the industry, and the portion of their experimental gardens which they retained were ordered to be sold. The occasion is of such general interest that we may quote their orders on the subject. "The information contained in these proceedings is very satisfactory and gratifying to us. The sales of the tea, both in Calcutta and London, judging from the statements of the cost per pound[15] .... confirms the opinion .... expressed that the article may under proper management be cultivated at a real remunerative price, and we accede to your[16]

[14] Act XIX of 1845.

[15] The cost of a crop of 96,000lbs. in 1845 is given as 14 annas per pound with all expenses, including freight and insurance.

[16] The Government of Bengal.

proposal that the Government should withdraw from any further connection with the cultivation or manufacture of tea in Assam."

Though the Government, by these orders, indicated that they considered that the industry was established, yet I do not think that this was by any means the case. Certainly after the first extravagance and mismanagement, the prospects appeared a little more hopeful. But though a dividend had been paid, no real profits had been made. The estimates of yield had been considerably falsified, and the same or a greater area showed signs of giving less yield than in previous years. There seems to have still been hopeless mismanagement, but, even more than this, it became increasingly evident that nobody knew how to grow tea so as to maintain the yield of the bushes, let alone increase the amount of tea which could be made for them. The concern had now in fact reached the stage when the method of planting and plucking tea which had been learnt from the Chinese who had taught the pioneers, had definitely broken down, and it was evident that unless new methods could be found which would yield more tea and maintain the yield of the bushes better, the industry must close.

The London Directors were the first to see this. Concentration on a smaller area till success was obtained in this matter was their policy, and in 1846 they, hence, closed down altogether the so-called northern and eastern divisions of the company (the Tingri group and the Jaipur group of gardens). But the position was first really faced in the report for 1847, published in 1848. In this the Directors definitely confessed failure, threw the blame on the Calcutta Board, and they go so far as to confess that they are doubtful whether it is worth while to continue, as even with a policy of great economy and very great care over expenditure, it was only just possible to keep the concern from showing a loss. There seemed no confidence as to its future capacity for profit It is curious to find this only two years after Government had, with a great flourish of trumpets, declared the industry established.

The position is well shown by the following extracts from the Report of the Assam Company for 1847. "The General Directory .... think it proper to mention to you that they find among the proprietors, and even among their own body, a difference of opinion prevails upon the vital question whether it is desirable or not to continue the operations of the Company. On the one hand it is contended that under the present system of management there is at all events no loss, and that the last year was the first in which the expenses in the province were kept within the estimate or nearly so, and the anticipated outturns of produce was not only realised but exceeded, while at the same time there is every reason to expect an annual increase in produce from seedlings, and the vacant spaces in our present cutivation being filled up .... and therefore it would be unwise to throw away all that has been spent on the enterprise at a moment when there appears so little chance of further loss and much reason to hope that some part of the money spent may be redeemed. On the other hand, it appears to be thought by many that there are too small hopes of success and too limited an amount of profit to be anticipated to render it advisable to continue our operations."

The London directors actually in the sequel asked the Calcutta Board to make them an offer for the whole company, and stated that they "would feel inclined to recommend to their shareholders the acceptance of any proposition that would give them a moderate sum per share, rather than depend on the distant prospect of a larger benefit." No offer was, however, made, and both the London and Calcutta authorities determined to risk another year (1848) of work.

We have now reached the lowest point in the fortunes of tea cultivation in Assam. The great hopes and prospects of a successful tea industry seemed to have almost disappeared. The recovery from that position was primarily due in the first instance to two men,—one in Calcutta and one in Assam,—whose confidence in the undertaking, whose business capacity, and whose integrity of

character drew the Assam Company from the brink of despair and made a future tea industry in Assam immediately possible. These were Mr. Henry Burkinyoung in Calcutta and Mr. Stephen Mornay who took charge in Assam in 1847. In five years these made a bankrupt concern into one which it was recognised could at least pay its way. There then followed the improved technical skill and methods introduced and carried out by Mr. George Williamson on the gardens in Assam, which made it into a very profitable industry.

The state of things into which affairs had drifted in 1847 was well described in a Calcutta paper, a year or two later, when the worst was over, as follows[17] :—

"The mismanagement of Joint Stock Companies in India has been so general, and its effects so disastrous to all concerned with, or interested in them, that we regret we cannot afford space at present to detail the measures by which the rapid downward progress of this Company has been so timely arrested, and its rescue from destruction on the very brink of ruin so promptly effected. We presume that all the old hands, when they perceived the inevitable fate awaiting their reckless mismanagement, with the instinct of rats, left the concern, for we find none of their names in the present board or in the management.

"If we are rightly informed, when the present authorities of the company took charge of its affairs, they found that upwards of 21 lakhs of rupees had been expended upon buildings and cultivation, which it was found, on sending a new superintendent to Assam ought not, under judicious and careful management, to have cost one-tenth of that sum; buildings which ought not at that stage of their operations to have been erected, had been so slightly constructed that they were already tumbling down, and but little was to be found of the extensive clearing and planting which had been reported from Assam, and paid for, and even those in existence were in such a neglected state, that another rainy season would have obliterated every trace of them. The credit and resources of

[17] *Friend of India*, May 9th, 1850.

the company were exhausted: they were £7,000 in debt in London, Rs. 40,000 in Calcutta, while the indispensable outlay required in Assam to save the miserable wrecks there, almost drove the then local directors to despair, and the more so, because the London Board urged upon them the closing or even total abandonment of the concern. They, however, possessed discernment enough to perceive the capabilities of the enterprise under better management, and with a spirit, firmness, and confidence that does them infinite credit, raised funds on their own individual credit and responsibility to make one more effort to retrieve the affairs of the company."

That this was not too dark a picture can be seen from the official documents of the company. Mr. Burkinyoung, the Chairman of the Calcutta Board of Directors wrote in 1848: "You, as well as ourselves, have of course long been aware that whilst the paid up capital of the company had been entirely sunk by the close of the year 1844 or nearly so, its expenditure had not been devoted to the true interests of the undertaking, and the extended properties which such a sum should have opened out so far from having been raised, a most limited and insufficient area of tea cultivation was in possession of the company, the chief portion of the capital having been devoted to extraneous and useless purposes, and, in effect, so far hopelessly squandered." It does seem remarkable, in fact, to find that the area really under cultivation in 1848 was only 400 to 500 *poorahs* (say 300 to 600 acres.)

With business management, however, the concern showed a profit of £3,000 in 1848, and the report for that year[18] shows new hope, and new confidence. Out of the debt of £7,000, £2,000 were paid. And the prospects was sufficiently promising to propose a new call of £1 per share (£10,000) to extend the real cultivated area.

On the technical side the production of tea, as will be recognised by all who know tea in Assam in these later days, the authorities were still only feeling their way. The maximum yield

[18] Dated London, May 4th, 1849.

per acre on the company in 1848 was 275lbs. of tea. The largest yield in the year was obtained in April and the season finished in September. The actual yield month by month was as follows :—

March	18,269 lbs.
April	41,125 „
May	36,391 „
June	37,523 „
July	31,920 „
August	26,079 „
September	19,345 „

To us nowadays this would appear, even with China plant, to show that the bushes were being overplucked in the early part of the season, and were never allowed to grow properly before the leaf was taken. This state of affairs continued, however, for some years longer.

Progress was very gradual. The Calcutta directors wished to go ahead: the London Board, having had their fingers burnt so many times, held them back. In 1849 the northern and eastern divisions (Tingri, Jaipur, etc.) were re-opened: on this the London Board expressed "their fear as well as displeasure.[19] But the area was slowly extended, and what was more, in spite of the expenditure on this, small profits were made. The crop in 1849 was 216,000lbs. The debt was reduced in this year to £2,500, and in the next season, with a net profit of £5,025, the whole disappeared. At last the first genuine dividend out of profits was paid in 1852 (for the 1851 season).[20]. It only amounted to 2½ percent., but it proclaimed to the world that the company, having made consistent though small profits from 1848 onward, was no longer the bankrupt concern it had been supposed to be, and had, at least, possibilities of success.

[19] Report dated May 3rd, 1850.

[20] Report dated May 7th, 1852.

This was followed by a dividend of 3 per cent. in the following season[21] and then the two men who had brought the Company from despair to a moderate amount of success—Stephen Mornay in Assam and Henry Burkinyoung in Calcutta—retired. One cannot exaggerate the debt which the tea industry owes to them. Their successors improved their results,—but they it was who made a tea industry appear possible in North-East India.

The new manager in Assam was Mr. George Williamson, perhaps the greatest figure in the development of the Assam tea industry, and afterwards the founder of the Calcutta firm of Williamson Magor & Co.; the managing director in Calcutta was Mr. W. Roberts, afterwards well known for his connection with the Jorehaut and other very successful tea companies. Williamson's report in 1853, after taking charge, was very interesting. He had been there under Mornay and had studied tea planting as nobody had done up to that time. He found a yield over the whole of the gardens of 196lbs. of tea per acre[22] only. The local cost of tea was between five and six annas a pound. He recognised the evil of China plant which had been used in putting out many extensions. Speaking of one garden (Kachari Pookri) he says "it also possesses an advantage .... in having no China plant, the inferior yielding of which in respect to quantity, is now a well established fact." He notes the great lack of labour, and the unhealthiness of the places, and speaks of serious attacks of cholera "which continued with unremitted virulence for three months."

But so far as I can judge, Williamson's success was primarily due to his recognising that if tea leaf is to be plucked, the tea bushes must first be allowed to grow. The season thus tends to become later. Little tea is obtained in March and April, and when the Directors get alarmed, he re-assures them that all is right. "Injudicious and ignorant plucking may seriously injure the plant and even cause its death by rendering it more liable to be attacked

[21] Report dated May 6th, 1853.

[22] The figures are given per *poorah*, I have converted these into yields per acre,

by white ants and worms." The result of his policy was a singular increase of yield per acre. Apart from bad business methods, the non-recognition of that on which Williamson now insisted was, I feel, the biggest cause of the early failures. The lack of technical skill and knowledge had made large success impossible until 1852.*

But now with business management, and a man, who had studied the tea bush and its yielding, in charge, things went ahead. The area, crop profit and dividend for the years following are shown below :—

Year.	Crop	Profit	Dividend.
1852	......	......	3 per cent.
1853	366,687 lbs.	£13,262	5 ,,
1854	478,258 ,,	£20,641	6 ,,
1855	558,628 ,,	£11,480	7 ,,
1856	......	......	8 ,,

With 1856 we reach a point when the pioneering days were over, and at this stage we may leave our study of the early days of the tea industry. It had proved itself so profitable that other companies were being formed, that prospectors for tea were all over the province, and that a regular industry was in the full course of development. It had, however, taken twenty-two years to reach this stage from the time when Government appointed its tea committee in 1834, as I have shown, the establishment of the industry had had by no means a plain course. The Government undoubtedly gave up their experimental work too soon, before the best method of growing tea had been discovered, or any way was really known of maintaining the crop from tea bushes. The Assam Company entered the field too early, before the knowledge of the subject was far enough advanced to make success really possible. It was mismanaged no doubt. The extravagance from 1840 to 1847 was colossal, and deserved the failure it got. But the technical knowledge required for success was hardly there, and even when business methods became perfectly satisfactory there was still only

very moderate success until the technical advance had been made which was required for large and continued yields of tea.

The pioneers of the tea industry are nevertheless men of whom we may well be proud. Jenkins who got the experiments established; Bruce who showed that tea making in Assam was possible; Mornay and Burkinyoung who proved that tea would at least pay; and Williamson who showed how to cultivate tea in a really profitable manner,—all these names deserve remembrance and recognition. Building on their foundations progress was rapid. The next ten years showed an almost inconceivable development, and such profits as led to speculation and almost to ruin in 1866 and the years following. That is, however, another story. The foundations of one of the greatest of Indian agricultural industries had been well laid by 1856, and tea cultivation and manufacture had been placed on the track which had led, through many vicissitudes, to the position which it holds to-day.

HAROLD H. MANN.

THE INCOME-TAX BILL (NO. 21 OF 1917).

IT is the business of this article to inquire into the subject-matter of the new Income-tax Bill, from the point of view of an impartial student of finance, and to determine how far the objects and reasons with which it has been drafted are likely to be fulfilled. But before dealing with this particular Bill, a general remark requires to be made on the nature of the Indian Income-tax itself as a fiscal resource.

While Great Britain and other civilized countries which can legitimately boast of a well-organised financial administration have attached great importance to income-taxation on the principles of justice and sound finance, it is much to be regretted that India, though under active British guidance, has neither recognised the justice of such taxation, nor adopted it to any appreciable extent, even though her financial needs are great and ever-growing. In fact, the income-tax holds a very insignificant place in the country's revenue-system. But every country that has tried it has recognised it to be the justest of all taxes now known to mankind. Why should not fiscal justice visit India too? Here the taxes on necessaries have been very heavy and oppressive to the poor; and at least to compensate this inequality, it is necessary to make the income-tax a more prominent source of revenue in this country. As a fiscal engine it has proved to be very productive in Great Britain and elsewhere; and the only proper means of satisfying the urgent financial needs of this country are to be found in an increased and more thorough introduction of income-taxation into its financial system. Great and necessary reforms, such as the introduction of free elementary education, and promotion of scientific and technical knowledge, which will vastly increase the potentialities and productive powers of the people, are being indefinitely postponed on the plea of want

of financial strength. This excuse is clearly untenable, in view of the fact that a proper adoption of the income-tax, while satisfying the canons of justice, will result in a considerable increase of revenue. The income-tax has greater merits than a system of protective duties which is expected by a large majority of Indians to render the financial help necessary for the country's urgent reforms. But a scientific study of finance will clearly show that the income-tax, while capable of rendering the same financial help, has the merit of not oppressing the poor to the least extent. On the other hand, it will lessen the inequality of the present revenue system which certainly puts heavier burdens on the poor. It is not, however, probable that a Legislature, consisting mainly of self-interested, wealthy or higher middle class men, will, in the near future, recognise the importance of a proper reform of the Income-tax, which, from the points of view both of justice and financial utility, ought to form an important and essential element in the revenue-system of this country. Nevertheless, this is a matter for serious consideration.

Now, coming to the Bill itself, everyone who is really interested in the welfare of this country ought to feel disappointed at the fact that the Bill makes no attempt at any reform of the essential features of the existing tax. The Bill says that it is not its business to raise or alter the rates of the tax, or to interfere with "the existing exemption from the tax of agricultural incomes." It is difficult to conceive how a complete adherence to the existing rates and the existing exemptions, which are in their very nature opposed to fiscal justice and equity, can be reconciled to a desire to achieve an "equitable working of the tax," and "to remove existing inequalities in the burdens which the tax lays on individual assessees." Yet this is the ostensible purpose of the Bill!

In the first place, it makes no differentiation between incomes derived from different sources. It has failed to realise that an equal amount of income from different sources does not necessarily connote equal ability to pay the same rate. True that it is difficult

to make a clear-cut and precisely logical distinction between "earned" and "unearned," or to use Gladstone's famous words, "industrious" and "lazy" incomes, yet an approximate, a practical and serviceable distinction is easy to make; and if the object of the Bill is to remedy existing inequalities in the assessment of individual tax-payers, it is difficult to understand how it can be achieved by refusing to accept the principle of differentiation. British experience in this connection has clearly shown that justice and equity are impossible of achievement, except through a full recognition of this principle. The words which Mr. Asquith in his capacity of Chancellor of the Exchequer uttered in this connection in 1907 are weighty: "If we take two men one of whom derives £1,000 a year from a perfectly safe investment in the funds, perhaps accumulated and left to him by his father, and the other makes the same nominal sum by personal labour in the pursuit of some arduous and perhaps precarious profession or some form of business, to say that these two people are, from the point of view of the State, to be taxed in the same way, is to my mind, flying in the face of justice and commonsense." After the introduction of differentiation as a working principle in the English Income-tax, and after its success has been ascertained, the same statesman speaks with satisfaction that it "has proved by experience to be not only practicable, but smooth and easy in its operation, and it has in fact paid for itself; and it has removed, once and for all, the most obvious and crying grievances and inequalities." A student of finance is really surprised to see the unwillingness, if not the timidity of the Finance Minister to recognise the justice of this principle and its easy workability. The taxable incomes in this country have been grouped into six classes, according to the nature of the sources from which they are derived (clause 5 of the Bill). Of these, salaries, incomes derived from business and professional earnings may fitly be brought under "earned" incomes, while incomes from securities, incomes derived from house-property and, as far as possible and reasonable, those derived from other

sources, naturally form part of "unearned" incomes. Now, taxing all these six classes of incomes at a uniform rate is, as we have just seen, unjust and inequitable, since all of them are not identical in nature as to their sources and methods of acquisition, nor imply equal ability to pay. It is therefore necessary, if an equitable working of the tax is desired, and inequality in its burdens to be removed, to introduce differential rates according to the nature of the incomes. We have British experience to guide us in this connection. The same British experience tells us that much difficulty will be experienced, and little utility gained, in carrying on the differential treatment of incomes to an indefinite extent. The only practical method of dealing with the question is to confine the differentiation to "earned" incomes up to a certain amount, say Rs. 4,000, and tax all incomes above that limit at the same rate as "unearned." There is no injustice in this, for when incomes are large, they do not feel the pain of industry, even though they are "industrious" incomes. But in the case of incomes of small amounts, the differentiation is necessary and ought to be made.

One of the most serious defects of the Indian Income-tax, acquiesced in and retained by the present Bill, is the exemption of all agricultural incomes from the operation of the tax. For this exemption there is absolutely no justification, and it is financially a great blunder. Broadly speaking, agricultural incomes in this country are of two classes. The agricultural incomes of cultivators, farmers, and small landholders who use their own personal labour in raising the produce of the soil, and who are actively engaged in their work, may be classed under one head, and in all respects they are "earned" incomes. But the amount of such incomes seldom extends even to so much as Rs. 500, and they may therefore be safely dismissed from the present discussion. The agricultural incomes of landowners of the middle and higher classes, which are generally in the form of a rent, may be grouped under a second head, and they are emphatically "unearned" incomes. There is no justification for the exemption of this latter class of incomes from

the income-tax. It may be superficially thought that because land-revenue is levied from the holders of lands, a levy of the income-tax on their incomes would result in double taxation, and would therefore be unjust. But this argument is unscientific and false. The land revenue is clearly not a tax, at any rate it does not possess all the essential characteristics of a tax. It is further a moot question whether the Government takes the revenue, in its capacity of co-owner of the land, in which case the revenue will be only a rent-charge, or in its own capacity, in which case the revenue will be a tax. Be this as it may, one point is perfectly clear, and that is enough for our present purpose. The Government has for a long time been continuing the ancient practice of levying land-revenue, and the certainty of this continuance has resulted in the full "amortization" of the land-revenue; and the present and actual owners of lands are therefore not in the least affected, either with regard to their incomes from their lands, or with regard to the actual value of their lands. The "amortization" is clearly seen in the fact that in buying and selling lands, the particular portion of the agricultural income which is required to pay land-revenue to Government is deducted from the total income received by the landowner, and the capitalised amount of the remaining income determines the value of the land. Nobody is deceived by the existence of the land-revenue. It is ancient and immemorial, definite and certain, and is therefore completely "amortized." [The custom of periodically settling land-revenue creates a real complexity, but that problem cannot be discussed here for want of space.] There is, therefore, no injustice in the assessment of agricultural incomes to the income-tax. An example may be given here to satisfy conscientious minds. According to clause 5 of the Bill, incomes derived from house property are chargeable to income-tax. If this is so, there is no reason why incomes derived from lands should not be so chargeable. Let us take, for instance, two enterprising men, each with Rs. 40,000 in his hands and ready to invest it in house property or lands. One of them buys two houses

in Madras which yield a total income, by way of rent, of Rs. 1,480 per annum. The other, we shall suppose, buys lands in the Cauvery delta, to the extent of 40 acres. He gets an annual net income of Rs. 1,500, after paying land-revenue. Now, what reason is there to exempt this latter man from the income-tax, and charge the former to the same? The second man when he bought his 40 acres of land bought it only for the capitalised value of its net agricultural income, after deducting the revenue to be paid to Government. There is absolutely no difference between his income and the income of the other man. If the one is exempted and the other taxed, is there any doubt that this treatment is "flying in the face of justice and commonsense"?

The next important point of criticism concerns the way in which the principle of graduation has been introduced and the methods by which it is made to work. Among the objects and reasons of the Bill, it is stated that graduated rates of income-tax cannot be combined with the system of stoppage-at-source, and that "one of the main objects of the Bill is accordingly to bring together all sources of an assessee's income, for the purpose of determining the rate at which he shall be assessed on each part of it." In spite of the pious desire to secure the above object, the provisions are so very inadequate and insufficient that one may reasonably fear that the very injustice which the Bill wants to prevent will be its net result. The Bill says that unless the total income is ascertained, "an assessee deriving his income from more than one source may . . . . pay appreciably less than a person of equal taxable capacity who possesses one source of income alone." But it has not taken any effective steps to determine the total income of every person, assessable to the income-tax As the report of the Income-tax Committee, which sat in 1904 in England, clearly points out, fraud and evasion will always be practised, unless the law requires the compulsory return, by every self-supporting individual, of his total income from all sources. As the same Committee observes, this rule compelling every earning man

(whether liable to income-tax or not) to make a return imposes no hardship on him. At the same time it prevents fraud and evasion to a great extent. There is no provision in the present Bill, requiring any person, whose income may amount to more than one thousand rupees or less than one thousand rupees, to make a compulsory return of his total income. Clause 17 (2) says that the Collector may require any person, whose taxable income, in the Collector's opinion, is more than Rs. 1,000 per year, to make a return of his income from all sources, during the year of assessment. This provision is, it is submitted, very inadequate and insufficient; the Collector is not always so omniscient. A case like this is frequent: A teacher getting Rs. 130 a month may be getting Rs. 30 more in tuition; Rs. 40 more for the management of a hostel; may possess a house yielding Rs. 35 a month; and in addition he may be getting an annual income of Rs. 2,600 from money lent to his neighbours at interest. Cases of another kind are more frequent. A particular individual may be earning Rs. 40 a month in a commercial firm. He may have at the same time lent to various persons in his village Rs. 6,000 yielding an annual interest of Rs. 600. There is, according to the provisions of the Bill, no means of assessing his income. He will simply escape from all these, it is clear that unless there is compulsory declaration of income by every earning person, there is much scope for fraud and evasion. This applies with special force to the system of "Scheduled" income-tax, on which a graduated scale has been peculiarly dovetailed.

The last and most obviously unjust provision in the Bill which requires some comment is found in the sixth item of Schedule I. It is stated "when the total income from all sources to which the Act applies is Rs. 25,000 or upwards, the rate of taxation is one anna in the rupee." This statement implies that every income amounting to Rs. 25,000 or more is to be charged at the uniform rate of one anna. That is to say, an income of a lakh or two lakhs of rupees per annum is to be charged at the same rate as Rs. 25,000. This is clearly unjust. The graduated scale in this country begins early

and ends early. This is not what we find in Great Britain and other countries. Of course there is a peculiar difficulty in determining how far a progressive scale is to be extended. If it continues to be further and further extended, the final result will be that at the point of one crore or five crores, the whole income will be absorbed by the tax. This, however, is only an instance in imagination. In practice we don't meet with such instances. The most suitable way of settling the scale of graduation in the Indian Income-tax will be to extend it as far as one lakh of rupees. Thus up to Rs. 50,000 one anna three pies in the rupee will be an equitable sum. From Rs. 50,000—Rs. 1,00,000, one anna six pies in the rupee; and for every income exceeding this limit a uniform rate of Rs. 10. The scale of graduation as it is in the Bill is quite unfair, and needs alteration or addition.

A. RAMAIYA.

THE NINTH PROVINCIAL CO-OPERATIVE CONFERENCE IN BENGAL.

To meet once a year at the seat of Government and there exchange arguments on the common campaign is now an established privilege of co-operators in Bengal. The Ninth Provincial Conference assembled in Writers' Buildings on 5th January and lasted for the accustomed four days. His Excellency the Governor presided. In opening the proceedings Lord Ronaldshay declared the co-operative idea to be in perfect harmony with his Government's general policy of social development. To this conclusion he analysed the ideals that motive the movement and reviewed the movement's past achievements in Bengal laying particular stress upon its qualities as an educator in democratic citizenship. He made honourable mention of economic work accomplished, pointing out that in little more than a decade the movement has furnished a hundred thousand cultivators with credit for something like a crore of rupees at rates varying from one-fifth to one-twentieth of the rate which they were hitherto compelled to pay. He acknowledged the notable fact that the Department had registered almost as many societies in the twelve months preceding 30th June last as were registered during the whole of the first five years of the movement, and announced that in the Budget of 1918-19 provision is to be made for a substantial increase in the departmental staff. He was peculiarly interested, he said, in the proposal to found a Provincial Bank for the financing of the whole movement, and promised the delegates that the scheme now outlined would receive the assent of Government. He also acclaimed the recent passing through the Legislative Council of a Bill extending the Public Recoveries Act to co-operative debt and said that the verdict of previous conferences had considerably assisted

him in his endeavours to win this concession from the Government of India. Finally he paid an appreciative tribute to the work of Mr. Mitra, expressing the hope that the Government of India would not refuse to give him back to Bengal, and congratulated the Conference on having obtained in his place so keen and experienced a successor as the present Registrar. After delivering his address and acknowledging a vote of thanks His Excellency retired, making over the chair to the Hon'ble Mr. J. G. Cumming.

Then came the Registrar's programme of agenda, formidable as the Catalogue of Ships. The same procedure was adopted as in previous years. During the afternoon of Saturday eight sub-committees argued subjects set for their disposal. On Monday morning their conclusions were laid before the house in printed form. Then for two successive days, each in his turn, the eight secretaries defended the findings of their fellows in open assembly, and final conclusions were adopted. A full text of the discussions has been published by the Registrar. This article aims only at getting them into perspective and then selecting what it thinks to be the features of special interest. An initial classification at once suggests itself. The Co-Operative Idea is honourable wherever met, but the Co-Operative Form established in this Presidency and most adapted to its economy is undoubtedly the money-lending agricultural bank. Taking this standpoint and using the necessary violence to cases on the borderland, one may tabulate the general subjects discussed as follows:—

(1) Subjects concerning the established Co-Operative System, namely, agricultural money-lending.

(2) Subjects concerning other forms of Co-Operative Credit.

(3) Subjects of an extraneous kind.

Of these groups the first directly or indirectly, claimed the attention of four sub-committees, the second of two and the third of two. The first is the most important. They shall be reviewed in inverse order.

The two sub-committees falling under the third group were—Nos. VI and VIII. The former dealt with Co-Operation and Education: the latter with Co-Operation and Representation. Sub-committee No. VI recommended the financing by Central Banks of primary schools to be started by Rural Banks: the introduction of lessons on Co-Operation into the Primary Readers of the Province: the training of Gurus and Miahjis in the principles of Co-Operative Banking: the founding of a Vernacular Co-Operative Journal and the erection of a Co-Operative Press. The Conference adopted only the last three recommendations. Its refusal to recommend the proposed enlargement of our Primary Readers may appear, perhaps, to err on the side of diffidence, but none will dispute its objection to the compulsory diversion of Co-Operative funds into educational channels. Sub-committee No. VIII was captained by the Hon'ble Mr. Fazul Huq. He asked the Conference to resolve that Co-Operative Societies should be given the privilege of electing representatives to Local Boards, District Boards, Municipalities and the Legislative Council. The proposal found several keen supporters, but the Conference finally decided that the suggestion was premature. The suggestion is certainly in strange contrast with the fundamental assumption of Sub-committee No. VI, to wit, that the movement in Bengal is at bottom and in bulk illiterate. An assumption that is sound. The decision of the Conference calls for applause. It constitutes a retreat from the position taken up in 1917, when a resolution was passed asking for representation on the Legislative Council. Perhaps the next Conference to meet this idea of representation will insist upon its absolute surrender. The idea is one of no practical value to the movement.

The sub-committees of our second group were Nos. III and VII. The former dealt with "Industrial Societies and other forms of Co-Operation," the latter with "Agriculture and Fishery." Sub-committee No. III recommended among other things, the formation of model Co-Operative villages, the creation of Co-Operative house-building societies in town areas (specially in Calcutta) the

organising of Co-Operative Stores by all Central Banks and the modifying of the Co-Operative Act so as to make a portion of the profits of an industrial society distributable to its members. The Conference rejected the first proposal as utopian and the last as premature, industrial societies being still in the experimental stage and none knowing what peculiarities they may shortly develop. It agreed with the proposal about house-building societies, rejecting only the sub-committee's rider that Government should be asked to assist them. With regard to Co-Operative Stores there was an accute discussion which ended in a very modified resolution to the effect that Co-Operative Stores should be encouraged. The general sense of the house was that such stores are commendable things in themselves but should not be allowed to grow parasitically upon Central Banks.

The sub-committee on Fishery and Agriculture succeeding in getting all its resolution passed with the exception of one. The resolution rejected was to the effect that Co-Operative Societies should be attached to Central Banks for the supply and distribution of carp fry to fishery societies. The chief resolutions adopted were, that the formation of fishermen's societies for leasing of fisheries should be encouraged: that Agricultural Associations should be formed on a popular basis in the Mofussil: that Central Banks should gradually enter into the work of supplying agricultural raw materials to village societies and arranging for the sale of their finished products, and that Co-Operative Societies should be used by the Agricultural Department, not for the purpose of agricultural experiment but for the purpose of demonstrating processes of proved value. The resolution about the supply and sale of agricultural raw materials and finished products probably owes its acceptance to its tentative form of wording. It certainly invites contrast with the refusal to accept a resolution covering merely the supply and distribution of carp fry and is a little inconsistent with the general purist attitude taken up by the Conference with regard to the

functions of Central Banks. To the resolution about agricultural demonstrations a salutary rider might have been added to the effect that these demonstrations should be conducted not gratis, but at the expense of the village societies. From the point of view of the members they should be financial experiments. For the man you are trying to reform financially nothing is worse than generosity with economic goods.

It is noticeable that industrial and other forms of Co-operative Credit, as distinct from agricultural money-lending, are annually attracting more attention in the programmes of the Conference. They are, moreover, finding concrete expression in Weavers' Societies, Fishing Societies, Milk Supply Societies, Co-Operative Stores and the Calcutta Consumers and Co-Operative Home Industries Purchase and Sale Society Limited. All wise men rejoice at the increasing popularity of these ideas and some think they will eventually claim a Government Department of their own. At the risk of appearing to exaggerate, however, this article wishes to insist on their distinctness. They are an alien importation into the real movement in Bengal, which, however cosmopolitan in sympathy, is primarily concerned with the regeneration of the cultivating ryot. The industrial form is particularly alluring : it is more complex : it goes hand in hand with ideals of industrial development. For all these reasons it is apt to constitute an intellectual distraction. Twenty or fifty years hence, when the morals of the cultivator have been so reformed that co-operative commerce in jute is a workable preposition, the agricultural adventure will be as attractive intellectually as any other. Meantime co-operative workers (who are none too numerous) should beware of side-trackings. One is glad to note that the Conference, as a whole, appears to have taken this view of the case.

We now turn to those parts of the proceedings which most concern the established movement. Their range is very wide, embracing problems of precept and practice right up from the

Village Bank to the Provincial Federation. The mere reviewer is compelled more than ever to be selective and to generalise. Fortunately for him there are several quite outstanding features.

Abuses, their Punishment and Prevention, is a time-honoured subject of discussion at those Conferences. This year it occupied as much attention as ever. The sub-committee on Primary Societies and the sub-committee on Legal and Semi-legal questions submitted reports almost exhaustively concerned with the problem of the black sheep in his various guises. As a fruit of previous discussions the movement has recently secured the benefits of the Public Loans Recovery Act. A large percentage of the Delegates this year were for pressing the attack still further and various proposals for getting punitive procedures legalised were strongly advocated. The peculiar feature of the proceedings was the all-round victory attained by the forces of reaction. Mr. Cumming from the chair made several pointed appeals for a purer interpretation of the Movement's charter. He urged the Conference to differentiate between co-operative money-lending and mere *mahajani*, and to recognise the fallacy of supposing that legal remedies could atone for slip-shod work. His utterances were altogether timely and created a profound impression. Many forces combine to make the movement specialise in mere wordly precautions. The material to be handled in the rural bank is extremely raw: the depositing public is a commercially-minded partner outside the true pale: and even the enthusiasts are largely magistrates and lawyers predisposed by their calling to take a cautious view of human nature. It was an excellent thing that the ideal point of view should have been thrown into such clear relief as it was this year. It made for clearer thought and for renaissance of spirit.

The Conference came to a wise conclusion as regards the relation of dividends to actual profits. The practice of calculating dividends upon an estimate of income due instead of upon an estimate of income

actually realised was condemned. As a corollary to this decision it was resolved that the limit of $12\frac{1}{2}$ per cent. per annum set upon dividends by the rules of the department should be removable by the Registrar if occasion called.

In echo of previous years renewed attempts were made to violate the neutrality of the Reserve Fund in Rural and Central Banks. Proposals were made for adding the interest on reserve funds to working capital and for crediting to working capital such portion of a reserve fund as might exceed the total outside liability of a society. The Conference endorsed the former suggestion in the case of Central Banks and vetoed it in the case of Rural Banks. It shelved the latter proposal as premature, no society having yet attained the financial position contemplated. It is an interesting fact reported by many workers in the Mofussil that the principle of reserve fund is a source of stumbling to the ryot. He does not appreciate it. He should be made to do so. It is exactly one of the notions he needs to be thoroughly versed in.

In several different forms the relation of Material security to Personal security was brought under discussion. The idealist sees in personal security the truest foundation of co-operative credit. The realist believes in personal security but believes still more in mortgage bonds. Neither view is adequate in itself. In speaking of a man's security one is really thinking of a man's failure to carry out a contract and of the salvage which may be effected from his material belongings in that event. Only the philanthropist can afford to neglect material backgrounds and the principle of salvage. The co-operative movement cannot, nor does it pretend to, do so. By its imposition of unlimited liability upon a landed peasantry it ensures to itself, by the agency of law, an ultimate grip upon material goods. But what the co-operative movement is really out to do is so to manipulate personal qualities as to create in them a security far transcending any other. Its mission, moreover, is not merely to drill white sheep, but also to turn black sheep white. The realist

would be best advised to meet the idealist half-way. He might re-state his case in the two following questions :—

(1) Is there not a preliminary stage in which personal qualities are still latent, and may not the mortgage bond perform a very necessary function while these qualities are being called out and manipulated?

(2) Is the psychological effect of a mortgage bond necessarily one that weakens in the debtor or the creditor his proper sense of moral responsibility? The best answers to these two questions are, to the former Yes, and to the latter No. Though they were not made quite explicit, these are the answers most indicated by the decisions of the Conference.

One of the most important questions discussed was the proposed Provincial Federation. At present several lacs of capital are borrowed from the public disjointly by the separate central banks and the bulk of it comes from Calcutta. The Registrar acts as broker in the matter, introducing the Central Bank to the capitalist and making no charge therefore. It is felt that the combined credit of the Central Banks would attract the capitalist more easily than the isolated credit of individual banks. The work of brokering is moreover passing beyond the compass of the Registrar, upon whom it has fallen in the past as a work of pure supererogation. Two proposals were put forward. One was that the Banks should employ a common broker in Calcutta and pay him a broker's fees. The other was that the banks should unite and form themselves into a Federation for borrowing money on the combined (limited) liability of them all. On a referendum of the banks the latter was decided upon. A draft of the bye-laws of the Federation was finally passed during the course of the Conference by a special sub-committee consisting of delegates specially authorised by their Central Banks. These representatives have signed the necessary application for registration of the new Society and the Federation will shortly be an accomplished fact. The authorised capital is to be ten lacs of

rupees divided into shares of Rs. 50 each. Shares will be confined to registered Societies in Bengal. It is understood that Capitalists regard this development with distinct favour, and in a year or two we may expect to find the movement obtaining capital at cheaper rates than it does to-day. The Office of the Federation will be located for the present in the Registrar's office. The Registrar will be Chairman of the Board of Directors. He has an interesting task ahead of him.

A prominent feature of co-operation in India is the active sympathy shown by Government. The co-operative departments which control and guide the movement contribute much to the movement credit in the money market and to its true advancement. The Conference discussed several questions concerning the department but the most important resolution passed was that put forward by Sir Daniel Hamilton, to the effect that the Department should be still further enlarged. Sir Daniel is a great enthusiast and believes in a policy of speeding up. He has a master gift for epigram and his utterances are always eagerly listened to by the Conference. He has always advocated a greater participation by Government in co-operative work. He acknowledged with applause His Excellency's announcement that three Deputy Registrars are to be added to the cadre and considerable additions made to the inspecting staff. But he asked for more Registrars and still more. He drew a picture of the *mahajan* calculated to stir the blood of his audience and described the present record of things accomplished and the present strength of the co-operative staff as things entirely lilliputian. He thinks that the germs of a vast public banking system lie in the co-operative movement and he expressed a doubt as to the sanity of entrusting such important possibilities merely to "honorary bankers." His very individual version of things provokes comment. Are not his assumptions about the ryot too optimistic? The ryot is certainly in a state of economic oppression. He is also however in a state of moral inepitude. He is one of the richest peasants in the

world and one of the most improvident. Brought into relation with the *mahajan* he inevitably succumbs to the economic temptation. Brought into relation with Government officials he will not necessarily develop into the semblance of a sound banker. It is not a banker that the movement most wants to make of him. It wants to make him a more continent citizen. It is a missionary movement comparable to the temperance movement of western countries. It wants to save the ryot from himself. Sir Daniel's indignation at the exhorbitance of money-lenders is thoroughly justified. A thing only less glaring however is the appalling intemperance of the class that borrows. One cannot help feeling that emphasis should be put not so much upon the need for an enlarged inspecting staff as upon the need for an enlarged band of lay workers, honorary before everything else. The tradition that it is the work of public spirited laymen to organise and not the work of Government is a sound tradition. The department has increased and should increase in proportion only as the field for inspection is extended by non-official co-operators.

One last thing is noticeable in the doings of this year's Conference. It has created no less than three new elective bodies for the service of the movement. The governing body of the Provincial Federation has already been referred to. The other two have not. One is the Bengal Co-Operative Organisation Society, a body to consist of representative people both inside and outside the movement whose functions should be to study the movement in all its aspects, to advertise it and to advise co-operative workers. It is to have an Executive Committee located in Calcutta. The other is a Standing Committee of the Conference, also to be located in Calcutta. Its duties will be to advise the Registrar whenever he may require the considered opinion of the co-operative workers of the province, and to use its influence upon the department and upon the movement to secure the carrying out of the recommendations of each successive Conference. It will be re-elected annually and will meet once a quarter. The future development of these last two bodies will be an interesting study.

On the one hand they are a sign of vigour. On the other hand they may make for a rather cumbrous multiplication of authorities. In any case it is to be hoped that they will always remember that the most vital problems of the movement are often those which no Committee can decide and that the highest virtue of all is the valour of the local worker in the towns and villages of the Mofussil.

This review must now close. It has not done justice to its subject and is conscious of being a sadly opinionated document. For all of which the writer craves forgiveness.

CURRENT TOPICS.

THE ECONOMIC CONFERENCE.

WHEN the Bengal Economic Association was founded one of the objects for which it was brought into existence was the promotion of periodical conferences which might serve to bring together those interested in the scientific study of economic problems and afford an opportunity for their discussion.

The first Economic Conference of the Association was held, by permission of the Bengal Government, in the Legislative Committee Room, Writers' Buildings, on the 3rd and 4th January 1918.

No attempt was made to organise a large public gathering and the meeting was in the main confined to members of the Association. But a very representative body of the professional economists from different parts of India accepted the invitation of the Association to be present and thus secured the success of the Conference. Among those present who took part in the proceedings were Professor Jevons, Professor Thompson and Professor Prosad from Allahabad; Professor Gilbert Slater, Madras; Professor Saunders, Madura: Professor Anstey, Professor Burnett Hurst, Professor Tannan and Professor Dalvi from Bombay; Professor Takore from Poona; Professor Horne and Professor Samaddan from Patna; Professor Bhargava and Professor Ghose from Agra; Professor Brown from Gauhati; Professor T. T. Williams from Dacca; Professor Gilchrist from Krishnagar; Professor Coyajee, Professor Kydd, Professor P. Mukherji, Professor Sinha and Professor Hamilton from Calcutta.

The subjects chosen for discussion were the "Economic Development of India" and the "Currency Question." The following papers were read and discussed, some of them being

printed in full in the present number of the *Bengal Economic Journal*:—"The Labour question as affecting the development of India," Professor Jevons; "Industrial Labour in Bengal," Professor Kydd; "Industrial Development and the Labour Question," Professor Horne; "Industrial Development in South India," Professor Slater; "Economic Development in a South Indian Village," Professor Saunders, "The Future of the Cotton Industry," Professor Burnett Hurst; "Co-Operation as an Instrument for Industrial Development," Mr. B. A. Collings; "The Appreciation of Silver," Professor Coyajee; "The Currency Problem," Mr. B. F. Madan; "The post-war price of Silver," Professor Slater; and "The Development of Saving's Banks," The Hon'ble Mr. J. S. Chakravarti.

In opening the Conference, Professor Hamilton said:—I should like to preface the short address with which as President of this Conference it is my duty to open our proceedings by thanking you for having accepted the invitation of the Bengal Economic Association to be present to-day. Especially are thanks due to those who have not only travelled a long distance in order to be here but have also undertaken the preparation of papers to form the basis of our discussions.

The present meeting is only a modest beginning, but I hope it is the beginning of a series of annual gatherings which will give a much needed opportunity for the economists of India to meet and interchange ideas and form such personal ties as are necessary for the fuller development of that co-operation in the work of economic research which is essential if the vast field presented for study in this country is to be adequately covered.

It has seemed to me that the comparative isolation which academic work frequently involves is one of the most serious hindrances to the effective advancement of our study which we have to contend with in India. The chief value of our meeting will probably be found not so much in any conclusions to which we may be led by discussion, as in the opportunity for personal intercourse

which the Conference will afford. At the same time, there is, I believe, a very real necessity that economists should take a more active part in guiding public opinion upon those subjects which come within their province than is now the case. I remember when, at the time of the Tariff controversy in England that arose after the South African War, a number of economic professors, of whom I was one, signed a manifesto in favour of free trade, that we were severely criticized in some quarters for transgressing the bounds of academic reserve and entering into the field of practical politics. This sharp division between theory and practice is in some ways peculiar to the tradition of Great Britain. It seems to me, however, that it has been carried to excess. The normal attitude of Englishmen is always to draw a hard and fast line between theory and practice, whereas the two should be brought into the closest relationship. In India, at the present day, economic issues lie at the very root of the questions that are most engaging the attention of administrators and the public. Assertions regarding economic fact and theory, often completely devoid of foundation, nevertheless obtain a wide currency and a general credence. If in India, as in other countries, public opinion is more and more to be the arbiter in the sphere of public affairs, it is surely necessary that public opinion should, as far as possible, be guided by those who devote themselves to the impartial study of the facts.

It cannot, of course, be hoped that professional economists will always be in agreement concerning the practical application of their theories in the world of affairs. Neither is it desirable in the interests of scientific freedom of thought that there should be anything in the nature of a professional economic creed, allegiance to which is imposed by authority. On the other hand, I believe it would be all to the good that the considered opinions of the leading economists upon topics of public interest should be given a fuller and wider publicity than is now the case. If in future an annual conference of economists can do something to bring this about it will give their deliberations a very practical value

Of the two subjects chosen for discussion this year, the Currency Problem and the Economic Development of India, the former is sufficiently definite and limited in character to admit of the main issues being considered within the time at our disposal. These issues are not merely of interest as involving matters of present and temporary convenience during the war period. They may have a lasting influence upon the economic condition of the country and upon its future Currency system and they need, therefore, the most careful examination.

The old position of stable equilibrium of the exchange rate has broken down and it is a question whether some new position of equilibrium should be sought. But such a change will have to be considered from several points of view and among the most important are those regarding the effect of proposed changes upon the internal level of prices and upon the cost of her future currency material to India. The second of our subjects for discussion, the Economic Development of India, is so vast in respect of the number and importance of the issues presented that it will be impossible for us to do more than discuss a few aspects of the question before us.

I hope the Conference will bear with me if I just touch upon one or two aspects of the general question of Industrial Development in India, before introducing to you the readers of the papers which it will be our privilege to hear.

The position as it presents itself to the mind of the average members of the Indian educated public is something as follows :—India has declined during the last century, or century and a half, from a Golden Age of relative wellbeing and prosperity and is, under the influence of Western Government and competition, becoming more and more impoverished.

Thus the present position is represented as one in which the old industrial activity has been destroyed, partly by deliberate legislative action, partly by exposure to the force of competition as the result of a *laissez faire* policy, while an increasing population

depends upon agriculture where the return to labour grows scantier as the years go by.

Such I think is the picture of the existing economic condition of India as frequently presented to the mind of the Indian public.

It is not my purpose to attempt here to sift the truth from the error which such a view involves. I believe there is no serious economist in the country who would accept it as anything but a biassed statement. Rather, looking forward, I would very briefly bring before you a few points regarding the nature of the economic changes to which public opinion is looking for the introduction of a more prosperous era.

There are, I think, two schools of opinion regarding the future development of Indian economic affairs.

The first looks for increasing prosperity to the growth of industry, in the main upon western lines, and urges the adoption of a policy which, it is hoped, will lead to the upbuilding of large-scale Indian manufacturers.

The second sees in western industrialism a force that is inimical to the characteristic ethical standards and social organisation of the Indian peoples which it is their duty to preserve. The western worship of "efficiency" is said to be synonymous with materialism and to be incompatible with the continuance of the large measure of content secured by the maintenance of status through the institutions of the caste and the joint-family.

It is of the highest importance that economists should bear constantly in mind the wider social and ethical significance of the methods of producing and using wealth. But it is impossible to pass over the central fact that the conditions that make a satisfactory life possible for a great population, satisfactory through the enjoyment of the means for education, health, and strength, can only be secured by using the most efficient instruments and methods whereby to conquer "the niggardliness of nature." Dr. Marshall has well pointed out that only in recent years, through the application of power and organisation to wealth production,

has control over Poverty for the first time become possible in the history of the world. In the interests of the masses of India these means to a higher standard of life cannot be deliberately neglected.

There are some who argue that India can never become a great manufacturing country, but it seems to me impossible to regard her great natural resources and her abundant labour power without coming to an opposite conclusion. That her industries must be largely localised in the neighbourhood of the sources of power, either coal or water, is certain. But the latter is as yet almost untapped and is capable of enormous expansion. It is probable that India will long remain predominantly an agricultural country. But that she is capable of greatly extending her manufacturers is, I think, undeniable.

The question is by what means this extension can be accomplished with most profit to India.

It is impossible to read the evidence given before the Industrial Commission without appreciating the fact that Indian public opinion relies chiefly upon two things for the achievement of its ambition—a protective tariff and State aid in one or other of such forms as Government pioneer factories, the offer of cheap capital, etc. I am far from being opposed to the adoption of a moderate protective tariff for India or to State aid in the direction of industrial experiment and the encouragement of enterprize. But it is of the first importance to recognise that these involve a present increase of the burden, a present outlay, which will only be justified if it succeeds in bringing into existence the other factors upon which success must ultimately depend and in the absence of which the country will be permanently poorer.

The first of these is undoubtedly efficient managing and organising ability and the second is a readiness to use capital productively. It is customary to point to the remarkable industrial expansion of Japan among Asiatic nations and to hear the suggestion that the chief cause of her expansion has been State aid. As a matter of fact the really

important actions of state in Japan have been the establishment of a modern system of government in place of the old feudal barbarism, the opening up of foreign intercourse and trade in place of the old exclusion, the spread of universal elementary education, and the introduction of a sound currency and banking system. These advantages with the exception of general elementary education, India already enjoys.

For the rest, Japanese commercial and industrial expansion depend, in my opinion, upon three main factors :—

(1) The possession of a very hard working labour population, especially the women, who move freely in search of employment at low wages, unhindered by the restrictions of caste, or joint-family property.

(2) The presence of a remarkable aptitude for commerce and, in perhaps a lesser degree, for industrial organisation among the middle classes who look to trade or manufacture as their chief means of employment.

(3) The concentration of the chief capital wealth in the hands of wealthy families by whom it is used for industrial enterprize which they themselves largely supervise.

It is true that in many ways the State, through the Department of Commerce, seeks to promote industrial expansion, particularly in respect of exported manufactures. But I am convinced that the total influence of all these forms of assistance is comparatively small when compared with the other elements upon which her achievements depend.

Moreover it is not usually remembered that in Japan the government only gave direct financial aid to industries and itself undertook pioneer industries to any considerable extent during the first ten or fifteen years of the modern era if the shipping and the iron industries are excepted. The policy was then abandoned as uneconomic. It may be argued that in the beginning such experimental State industries, or State subventioned industries, were the only means by which the initial obstacles would be overcome.

But even if that were true there is little analogy between the position of Japan in the period 1868-80 and the position of India to-day.

Again when drawing comparisons between Japan and India, it must not be overlooked that Japan's expansion has been accompanied by a very great increase in the State Debt and her *per capita* taxation.

Since the Chino-Japanese war her national expenditure has increased six-fold, while her taxes per head have increased nearly three-fold between 1900 and 1915.

Those who demand that the State should take a large direct part in the development of industry must remember the counterpart in increased taxation. There is, I believe, great need for India to be materially developed at a faster rate than in the past and an increased State expenditure is a necessary consequence. But the chief sphere of State action should be the improvement and extension of education, the increase of means of communication and the undertaking of large productive works, such as the use of water power, which are beyond the capacity of private enterprize. The private capitalist and entrepreneur cannot shirk his responsibilities and India cries aloud for men who will adventure their wealth in the cause of industrial progress by the promotion of undertakings, not treated as personal hobbies, but as business propositions. And it may be permitted here to point to an attribute of the Japanese that may well be imitated by the Indian—namely, his readiness to profit himself by foreign experience and by the employment of foreign industrial experts in his own workshops. At the recent Indian Industrial Conference a complaint was uttered against the Tata Company for the engagement of foreign engineers. Compare such a short-sighted policy with the every-day practice of Japanese capitalists as illustrated, for example, by the successful introduction of plate glass manufacture in Japan by Baron Iwasaki through the aid of a number, first of Belgian, then of American experts.

May I conclude these introductory remarks by stating my firm belief in the possibility of and the need for Industrial expansion

while urging those who share in this belief not to rely merely upon State help but upon private energy and initiative. In the main it is the function of the State to control private enterprize in the interests of the general good, not itself to supplant it.

THE BUDGET.

THE fact that Sir William Meyer's budget speech was this year occupied with a statement of accounts and an explanation of policy and not with the introduction of new taxation did not render it the less interesting to the student of Economics. The nature, if not the precise magnitude, of India's financial problems resulting from the war is now fairly well defined and, so long as the war lasts, the broad lines of action that have been taken hitherto are likely to be followed without important changes of policy. The next chapter in the history of Indian finance will begin with the post-war re-adjustments. Meanwhile it is possible to take stock of the situation.

The questions that are probably foremost in the mind of the "man in the street" are, "what has been the broad effect, hitherto, of the War on the Economic position of India?" "Has it made the country richer or poorer and by how much?" It is manifestly impossible to answer such questions with any quantitative precision. The changes and reactions involved are so complex that they are often extremely difficult to ascertain, far less to value. But a few considerations may here be noticed that bear upon the problem and help to suggest the answer.

The first fact that may be noticed is the very considerable increase that has occurred in the Revenue and Expenditure of the country. The Public Revenue for 1917-18 was more than 30 per cent. in excess of that for 1913-14 and during the last two years the State has collected some £38 million more than in the last year of peace. This sum is not to be regarded as entirely the proceeds of war taxation, but about half of it may be directly so classified

and a further quarter, representing increased Railway profits, may be described as a form of indirect war taxation. This additional Revenue is the more remarkable when it is remembered that it is in no way due to an increased levy upon the predominant source of wealth in the country, namely, income from the land. That this increase of Revenue has been obtained without the appearance of any signs suggestive of an excessive tax burden leads one to ask whether the present revenue should not be regarded as well within the permanent taxable capacity of the people. It is, of course, necessary to distinguish between the taxes falling upon income that is directly due to the war and those paid from income that will continue in peace. When full allowance is made for this factor a large margin remains that should be treated as a permanent addition to State Revenue available for the development of the country.

While the Revenue has thus grown, those forms of Public Expenditure that are connected with the supply of normal facilities and utilities to the people have not increased. It may be broadly asserted that the additional Revenue has been spent in defraying special costs occasioned by the war. For example the increased cost of the Indian Army to India has involved an outlay of £15 *m.* in the last three and a half years, while debt of over £14 *m.* incurred during the earlier depression caused by the war has been repaid. So far then India would appear to be poorer by an amount of extra taxation spent "unproductively."

In the second place the war has caused a very great contraction in the capital outlay upon two highly productive undertakings, the railways and irrigation. In the Budget speech for 1913-14 an annual capital outlay of £12 *m.* was accepted as the standard rate at which the Railways should be developed. But during the past three years the actual capital outlay has been some £27 *m.* short of this standard. Similarly the expenditure upon irrigation has been lower by some 2 to 3 £ *m.* than it would have been under peace conditions. The extent of the loss to the country resulting from

this decline of capital outlay is the net income that would have accrued from investment at the standard rate.

The next item on the debit side of the account is the decline of Foreign Trade. It is, however, a matter of great difficulty to say what is the true measure of the loss resulting from this cause. Indian Foreign Trade had shewn a steady and continuous growth from the year 1909 to the outbreak of war. Had peace been preserved it is probable that this growth would have continued. It is a conservative basis of comparison, therefore, to take the figures for the last year before war as giving the volume of Foreign Trade which would have been maintained under peace conditions. The following are the totals of imports and exports since 1913-14 :—

MERCHANDISE (CRORES RS.)

	1913-14.	1914-15	1915-16.	1916-17.	1916-17. at values of 1915-16.	1917-18. estimated at values of 1915-16. *
Imports .	191	144	138	160	130	128
Exports . .	249	182	199	243	209	200
TREASURE						
Imports ..	43	21	11	38	. .	.....
Exports ..	7	5	8	6	...	......

After making some allowance, although certainly not a full allowance, for the rise in prices we get as a rough approximation the result that since war broke out India has imported about 224 crores worth of goods less than she would have done and has exported 206 crores worth less than she would have done had peace continued. Further, she has imported on public and private account some 50 crores of Treasure less on balance than she would have done. What is the significance of these statements? From the widest standpoint a country's exports represent a sacrifice of utilities in order to obtain by import other utilities that are more

urgently needed. So regarded India appears to have suffered through the war, so far as the present is concerned, since, although she has parted with fewer goods, she has obtained fewer still. It is, of course, a possibility that when the foreign demand for a country's goods falls off these goods are not produced at all. The producers may be thrown out of work. In that case the decline in the volume of foreign exports would be accompanied by a maximum of economic loss. In the present instance, however, this can be the case to a small extent only. Broadly speaking the goods have been consumed internally instead of being exported. The loss is thus reduced to the amount of the utility that would have resulted from a foreign exchange of goods. The fact that the volume of imports has declined more than the volume of exports might, again, imply that the terms of international exchange have been altered greatly to India's disadvantage so that she has had to give a much larger volume of her goods in exchange for a given volume of imports than before. This has been the case to some extent, but the greater decline of imports than of exports points also to another conclusion. It points to present abstinence. But, as the older economists used to say, capital is the result of abstinence. India is going without goods now and is thus obtaining a favourable balance of trade because she is exporting a part of her goods on credit. She is thus storing up capital for future productive use. So regarded the present sacrifice which consumers are undergoing will have a measure of future reward.

While the war has enforced upon India a large reduction in the volume of her Foreign Trade it has on the other hand enabled those engaged in certain branches of production to reap very large profits. So far as certain industries are concerned, *e.g.*, cotton and iron, these profits are partially gained at the expense of India herself. In the case of other things such as jute, grain, and exported cotton on the other hand the profits come from the foreign consumer. In either case the war is the cause of a great increase in the capital wealth concentrated in relatively few hands.

For the most part this new capital is being retained in the country in more or less fluid form. It is not a very propitious time for remitting capital abroad even where it is owned by Europeans, although if the exchange rate goes on rising its exodus will be encouraged. Neither is it easy in many cases to invest the new capital here because of the difficulty of obtaining new capital appliances. But a good deal is being invested in industry and it should be a cardinal element in Indian financial policy to endeavour, as far as possible, to keep this new wealth in India. From this point of view it is a pity that any restraint should be imposed on the flotation of new industrial enterprizes such as that enforced by recent order. It is also a strong argument against imposing heavy taxation upon industrial profit. In no small degree the question whether India gains or loses by the war in the long run will depend on the ultimate destination of this new capital.

We may now turn to another fact of outstanding importance relative to the question under discussion, namely, the huge expenditure that India is incurring on behalf of the Home Government. Down to 31st March last this is estimated at a total of £128 *m.*

There are several aspects from which this fact has to be considered. This huge sum represents the purchase of vast quantities of goods and services required for the prosecution of the war. What is the effect of such purchase on the economic welfare of India? From the point of view of those supplying the goods and services the measure of advantage is the profit gained. But this is not necessarily the measure of the advantage to the country as a whole. It is important to know to what extent these goods represent *additional* products that would not otherwise have been brought into existence, or are merely a *diversion* of products that would otherwise have been available for consumption. In the former case the country, by an increase of productive activity, gains an equivalent of the total value expended without any necessary material sacrifice. In the latter case the gain is partly

obtained by one section of the community at the expense of another. In the former case there is no present loss of consuming power while in the latter there is.

The distinction here drawn is important relative to the argument put forward by some that it is necessary materially to raise prices in India so as to improve the terms of international exchange. If all prices could be affected in such a way as to leave the relative terms of exchange within the country unaffected there would be no danger, but if prices of staple commodities are sharply enhanced, while the purchasing power of a large section of the community remains the same, the gain to the country, as a whole, may be purchased at the cost of an excessive present sacrifice of that section.

There is abundant evidence, however, to justify the conclusion that the outlay of the £128 *m.* has called into existence a great increase of new industrial activity in India and that the gain to the country is far from being limited to the profits upon the commodities supplied. Many new industrial processes are being learned, thousands of *mistries* trained, and new supplies of raw material opened up. And all this is being achieved, not as would normally be the case, at the expense of India, but, in large measure, at the cost of the United Kingdom. If the new industries survive into the peace period and succeed in permanently enlarging India's resources the gain accruing from the present outlay will be far in excess of the mere money value of sum expended.

One aspect of this large Indian outlay on English behalf may be briefly referred to—*viz.*, its bearing on the exchange question. It is said that the heavy expenditure of the Indian Government on behalf of the War Office is a prime cause of the difficulty in financing the Indian export trade. The argument is as follows:— In the ordinary course India has to pay Home Charges amounting to, say, £22 *m.* per annum. The Secretary of State gets this value by selling Council Bills. These Bills are paid by the Indian Government with the proceeds of taxation in India. With these

tax proceeds Indian goods are purchased and shipped abroad. Thus, so to speak, £22 *m.* worth of goods are sent abroad for which nothing returns, and this export trade is financed to this extent by the Council Bills in question.

But, under present conditions, the Secretary of State gets his £22 *m.*, and more, paid to him by the War Office on account of the Indian expenditure on English account. Hence he has no need to sell Council Bills, and thus the export trade is deprived of its instrument of finance.

The suggestion is that if the Indian Government were not paying the Home Charges by means of War Services rendered in India the Secretary of State would be drawing his Bills and so exports could be more fully financed. But the suggestion is largely illusory for if India were not sending goods and men to Mesopotamia and otherwise using Indian resources for English account the Indian exports available for Europe would be greatly increased. Thus while the supply of Bills would be larger so also would the demand. There is no reason to suppose the exchange problem would be greatly easier for the business community. If the exchange were easier it would be a general indication that India's balance of indebtedness, as a whole, was less favourable and that her exports, either visible or invisible (including her outlay in Mesopotamia), were less, and this, speaking broadly, would be contrary to India's interests in the long run.

THE INDIAN ECONOMIC ASSOCIATION.

ONE of the chief results of the Conference promoted by the Bengal Economic Association may prove to be the inauguration of an Economic Association for the whole of India which will serve to link together all those interested in Economic Science throughout the country and afford a medium for their common action in promoting the study of their subject.

It was felt by many of those attending the Conference that steps should be taken to ensure the organization of such a meeting

annually in the future to be held in the different economic centres of the country in turn. Moreover it might prove to be desirable to issue a Journal of a thoroughly representative character, edited and published on behalf of the general body of economists in India.

At a conversazione held in the rooms of the Royal Asiatic Society for the members of the Bengal Conference on the 3rd January these objects were generally approved and it was agreed that in any case a second Conference should be held early in January, 1919, in Bombay, and Principal Anstey undertook to act as the local organising secretary for the purpose of making the necessary arrangements.

On the following evening the subject was further discussed by a small body consisting of Professors Brown, Burnett Hurst, Hamilton, Jevons, Thompson, Slater and Williams, and it was decided that those present together with such persons as might be admitted hereafter should be constituted the "Indian Economic Association." Certain fundamental questions affecting the constitution of the Association were then discussed, chiefly bearing upon the relationship which should exist between the Indian Association and such Local, or Provincial Associations as already existed, or might in future come into existence. Certain general conclusions were formulated but it was agreed that pending a further meeting to be held for the adoption of a constitution and bye-laws no further persons should be admitted to membership.

REVIEWS.

STATISTICAL TABLES RELATING TO BANKS in India,—Calcutta, 1917. (Third issue.)

The days are past when Mr. Keynes could say that "the statistics of India do not lend their aid to ruder hands than those of the historian." The Department of Statistics is to be congratulated on the annual publication of these very useful tables. With each issue of the series the tables have been made more comprehensive and the analysis of balance sheets as well as the banking map and directory are the welcome additional features of the present issue.

This number opens with accounts of the nature of the work of the different classes of Indian banks. The study of the functions of the Exchange banks is particularly good. One point, however, might have been made clearer. The present publication remarks that "to the extent to which the documents on acceptance are rediscounted immediately after the acceptance (which they are in the great majority of cases) the Indian export trade is financed not with the funds of the Exchange banks except from the time of the purchase of the bills in India to their arrival in London, but with the funds of the British banks, *i.e.*, with British and not Indian capital." This is true to a great extent; but a more comprehensive and balanced statement is that of Keynes' (*Indian Currency and Finance*, p. 211). "From the point of view of the London money market as a whole it is a mere difference of machinery whether the Exchange banks finance the Indian trade by attracting deposits in London and hold the bills themselves, or whether the Discount Houses and London banks attract the deposits and use them to rediscount bills for the Exchange banks." The difference between the two methods affects private profits but not the main question of resource and as to how far Indian trade is financed with British capital.

The story told by these tables is one of progress and prosperity. The energies of the Indian banking system had been braced and not relaxed by the storm of 1913; and it has risen to the occasion presented by the war crisis. Hence the effects of the war on the ordinary business of banking in India has been of comparatively little importance. With her high foreign trade figures and the activity of her domestic trades, India has felt the strain of war less than other countries. Her financial troubles, as has been said, are due mainly

to the exchange problem and in no way to lessened prosperity. The progress and development of India in banking strength has in no way been checked. The growth of deposits is remarkable and is attributed to prosperity and higher prices as well as to favourable monsoons and to the great demand for Indian goods abroad. The increase in the proportion per cent. of cash to liabilities on deposits in banks is especially noticeable. The banks have learnt from the experience of 1913, how to keep up a strong position in stormy times.

There are other lines of progress to be noticed. Just before the war, keen observers had noticed as an element of danger the growth of deposits attracted by the Exchange banks in India without a corresponding growth in their Indian cash reserves. This fear is dispelled by an 85 per cent. increase of cash since those days in the case of the Exchange banks. Another improvement suggested by Mr. Keynes has also been carried out. He regretted that "we do not know what proportion of the Exchange banks' total deposits are held in England." The answer to this has been supplied in Table No. 5, of the present publication. No less striking is the improvement in the position of the Indian Joint-stock banks which in the days gone by thought more of attracting deposits than of retaining cash reserves Their position is, of course, not so good as that of the great Exchange banks, and yet it was an achievement to have increased their cash holdings by 40 per cent. and their capital and reserves by over 25 per cent. In the group of the smaller Indian Joint-stock banks the cash balances decreased by 33 per cent., but so did their deposits. The general increase in investments and the reduction in discounts and advances have been well accounted for.

In conclusion, we must urge on the Indian Students of Economics the great importance of making a thorough study of these instructive Statistical Tables.

J. C. COYAJEE.

1. REPORT ON THE WORKING OF THE CO-OPERATIVE SOCIETIES IN THE PUNJAB (for the year ending 31st July 1917).
2. ANNUAL REPORT ON THE WORKING OF THE CO-OPERATIVE SOCIETIES ACT (for the year 1916-17). Madras.
3. REPORT ON THE WORKING OF CO-OPERATIVE SOCIETIES IN BIHAR AND ORISSA (for the year 1916-17).
4. ANNUAL REPORT ON THE WORKING OF CO-OPERATIVE SOCIETIES IN THE UNITED PROVINCES OF AGRA AND OUDH (for the year 1916-17).

IN every great and continuous movement periods of rapid progress alternate with periods of consolidation and self-criticism. But public self-criticism is

always a healthy sign and the more of it there is, the greater the assurance of progress. The United Provinces report strikes the keynote of the present situation when it tells us that "the Indian Co-operative movement seems to have reached a stage where self-examination is necessary and where we need to face our facts and clearly visualise our defects if progress is to be sound." The same tendency towards a critical self-analysis is often manifested in an acute form at the various Co-operative Conferences. Mr. Wolff, our living classic, has also added a "word of warning" in the last number of the *Bengal Co-Operative Journal*. He observes that "there are three points upon which the Indian Co-operative Credit Movement is getting near the danger-zone. The one is, as observed, organisation from top to bottom, threatening over-centralisation and interlinking of liability. The second is that of inefficient checking and control. And the third is the desertion of the good old co-operative rule, with which, more in particular, the Raiffeism system is strongly identified; but which really governs all sound practice of co-operative credit, the rule which makes, not a man's possessions convertible into cash, but his character and the employment of his loan, the security for the latter."

But there is nothing like healthy self-criticism to excite a fresh feeling of optimism. When, for example, we find Mr. Willoughby criticising sharply the purpose and the terms of the loans granted in his province, the defects inherent in the small central banks, and the overdues from society members, we feel that that vigilant warden of co-operation in the United Provinces is particularly on the alert and that nothing escapes him. Moreover in the United Provinces the conditions have been unusually unfavourable on account not only of the war but owing to floods and ill-distributed rainfall. It is further to be noticed that in all provinces the self-criticism has not been indulged in for its own sake, but that important steps have been taken in the way of improvement and drastic liquidation has been the order of the day. Besides repenting, therefore, our system has brought forth fruits meet for repentance. Thus, the effects of the drastic liquidations in 1915-16 has been salutary in Madras with the result that the number of liquidations have fallen from 63 to 6 in the year under report. The thorough nature of the scrutiny in the Punjab is shown by the fact that no less than 12,000 members of agricultural societies, who had no real interest in the movement, have been expelled and a number of unsuccessful societies have been broken up. This cleansing process cannot but have a strengthening and invigorating effect on co-operation as a whole. Mr. Collins in Bihar has also been applying the pruning knife energetically and wisely emphasizes the fact that liquidation is not a sign of weakness in the movement. In a word, the work of consolidation is being vigorously pushed on in all the provinces.

To come to more positive signs of progress. We find the provincial bank exercising a beneficent activity in Bihar and acting as a buffer between the central banks and the money market with the result that fluctuations in the rate of interest were minimised at a difficult time. The Provincial bank has proved its utility and its formation at an early epoch of provincial co-operation has been fully justified. The Central banks are themselves progressing towards efficiency. In Madras there has been a marked improvement in the collection, both of principal and interest in the case both of Provincial and Central banks and arrears have been recovered. In this year the Madras Central Urban Bank has been converted into an apex bank and a sound scheme of organisation has been devised for it. The Union banks in the Punjab have had a successful year, have increased their reserve fund largely and have improved their constitution in the direction of a more co-operative basis. In this way the necessity of a few public-spirited gentlemen pledging their property for the common good will be avoided. The Central banks "have taken an assured place among the financial institutions of the province." This must not let us forget the fact that in some provinces there are defects inherent in the small central banks, and, as Mr. Willoughby observes, we are not much nearer solving the problem of replacing them. The guaranteeing union has not yet passed the early stage of introduction so far as the United Provinces are concerned. In Bihar also the Registrar notes that they have not yet captured the imagination of the societies to whom they appear as additional factors increasing the risk already existing from unlimited liability. In any case some time is needed to prepare the ground for them. It should be noted that India is a great continent with enormous variations in local conditions; and though the guaranteeing unions have won their spurs in Burma and elsewhere there may be a few parts of India not quite suited to their activities. The alternatives suggested for them are either branches of the district bank or supervising and organising committees under a district or subdivisional officer. Such suggestions, however, do nothing to detract from the real merits of the guaranteeing unions as a stage in decentralization.

As regards Inspection and Audit it is good to find the inspecting staff strengthened in the Punjab and the Central banks there submitting their accounts to professional auditors. The Government have expressed their readiness to expand the staff of expert subordinates if the necessity is established. That is the right way to extend State help to the development of the co-operative movement. In Madras the prospects of the improvement of union supervision are promising though its development is both partial and recent. In the United Provinces "the regularising of the system of audit and inspection that has taken place during the last five years has had the very salutary effect of raising the standard of co-operative education and practice demanded from the societies." In Bihar we are told how the work of

inspecting is developing as it should develop if the foundations of co-operation are to be strengthened. The Registrar and his Deputy are themselves taking a hand in the work and there are also the managers, directors and the inspecting clerks employed by the Central banks. As for the auditors, Mr. Collins praises the quality of their work, but remarks that their programme of work is overloaded. He has consequently, like a skilful general, got together a reserve of auditing officers.

The moral and social effects of the co-operative movement cannot be too much emphasized. They have supplied a village bond all the more essential that the old village community is a matter of the past. It has also created a demand for education. The feeling of communal responsibility is growing and societies have been taking common action for the improvement of sanitation. The old Panchayat system which was a highly useful feature of the Indian village life has a great chance of resuscitation in connection with the co-operative movement. "At present," observes Mr. Darling, "the system of arbitration is only applied to disputes between societies and their members. In time, probably in some modified form of panchayat, it should be possible to extend it in select societies to disputes between individual members." Even now in the United Provinces petty disputes are often settled by the Panchayat. Again in the matter of joint action for veterinary treatment of the members' cattle the societies are doing good work. There is an enormous scope for work on the moral and social side as is demonstrated by the example of Japan.

Co-operation has also been benefiting the organisation of trade and industry. In spite of the disturbance of trade and industry the distributive store society has continued to develop in the Punjab. The co-operative societies are "commercial schools for the people." Societies and unions store and sell agricultural implements like the Meston plough and agricultural products like *ghi*. The close of the war promises to extend these operations into other fields. In Bihar the co-operative dairies cannot be said to be exactly flourishing, but for the other side of the shield we should note the *tassar* weavers' societies and the societies of carpenters and blacksmiths. A unique experiment of a very promising nature is the co-operative dispensary in Bihar. The Sandila Yarn Store and the Lalimli Society have done very well in the United Provinces, and the latter has gone further and purchased a large number of cash certificates in the war loan on behalf of its members. Building societies are an important feature in Madras and it is an excellent idea that when a municipality acquires sites and houses the compensation awarded might be turned into the working capital of co-operative building societies. Weavers' societies are also to the fore in Madras. But as for stores it would appear that, in that province, with the exception of the Tripli ane Society, stores have not attained the measure of success which has been obtained in such stores in other places.

On the financial side also there is no want of successful features. In Madras the working capital has grown from Rs. 169 lakhs to Rs. 205 lakhs, while the reserve fund and the paid-up share capital have grown proportionately. The profits of non-agricultural societies have been rising at a very rapid rate. Some of the banks have been very successful in attracting outside capital. In the Punjab "the share-capital of agricultural societies shows an increase of 4½ lakhs, the result of greater insistence on the prompt payment for shares. The total share-capital now amounts to nearly 47 lakhs of rupees in spite of transfers from share-capital to deposit of the share money of the 12,000 excluded members. The reserve fund stands at very nearly the same figure as last year (27 lakhs): this with the share-capital forms 56 per cent. of the total working capital of Rs. 1,32,30,000 so that the societies offer excellent security to Central banks." In the United Provinces the conditions have been adverse and yet the net financial results were not unsatisfactory. At the beginning of the year the members owed a total sum of Rs. 45·30 lakhs to the agricultural credit societies and the outstandings at the end were Rs. 44·84 lakhs in spite of the difficult situation. Out of a total working capital of Rs. 51·36 lakhs the paid-up share-capital amounts to 10·16 lakhs and, adding for the undistributed profits, the "owned" capital was about one-third. In Bihar and Orissa the working capital has risen from Rs. 20·37 lakhs to Rs. 21·61 lakhs, while the capital of non-agricultural societies has risen by 40 per cent. Then we have to take account of the war contributions of our co-operative societies. In the United Provinces alone more than 9 lakhs of rupees have been invested in war loans and the Central societies have supported numerous war charities. There is a movement towards the utilisation of reserve funds in buying war bonds and Bihar has utilised in this direction about a lakh and a half. These and other similar efforts show that while in Germany the reserves of Co-operative banks have gone to support the war, India has also worked in the same direction. It is also noticed by Mr. Calvert that the contribution to war loans have automatically and quite in the fitness of things decreased the deposits in the societies.

To sum up, it can be confidently asserted that the period of the present war has brought out the strength of our co-operative movement and marks an important step in the forward march of co-operation in India. The reports reviewed also go far to disprove the statement that the policy followed in India as regards currency and exchange has dealt a blow to the Indian agriculturist and producer.

J. C. COYAJEE.

NOTE.

Owing to the large demands upon the space in this issue of the Journal due to the publication of papers read at the Conference a number of Reviews are unavoidably held over to the September issue.

THE BENGAL ECONOMIC JOURNAL.

SEPTEMBER 1918.

THE PROFITS AND RENT OF AGRICULTURAL LAND IN A CORNER OF BENGAL IN 1789.

THE proclamation of the Permanent Settlement of Bengal by Lord Cornwallis on the 22nd of March 1793 perpetuated a 10-year settlement which had been completed over most of the province and was nearing completion in the Eastern Districts. No systematic enquiry regarding the assets of the estates was made for the purpose of the settlement. Previous assessments with minor alterations were the basis used and enhancements of revenue were hardly ever considerable. In the area now comprising the districts of Tippera and Noakhali at least the revenue of no estate was enhanced which had borne the same assessment for 12 years previously. Since the Grant of the Diwani to the East India Company in 1765 the problem before the Revenue authorities had been to discover what was a fair assessment on each Parganna, *i.e.*, single large estate, or agglomeration of small estates, which had paid revenue to the Mughal Government through one zamindar, and to realize it. The third and last systematic assessment made by the Mughals had been completed in 1722 by the Viceroy Murshid Quli Khan. Even in that the assessment on individual estates seems to a considerable extent to have been based upon the previous assessments. Such was the universality of corruption in the country in the middle of the 18th

century that for the Mughal Diwan or even a zamindar to attempt to revise the assessment on the basis of a measurement of the land in occupation would have been to invite wholesale fraud. An alternative expedient was found in the abwab, an imposition made rateably upon existing revenues and rents, which was adopted both by the zamindars and the Diwan. Whether the abwabs imposed upon the zamindars were more than partially realized is more than doubtful. During the first few years after 1765 the revenue administration was left in the hands of Indians. In 1769 European "Supervisors" were appointed who became on 11th May 1772 "Collectors." The revenue collected remained much less than it had been expected it would be and the proper assessment on each individual Parganna doubtful. In 1772 with a view to increasing the amount as well as discovering what assessment each Parganna could bear five years' leases were given to the highest bidder who could furnish good enough security. A Committee of Revenue moving in circuit concluded this settlement and the total assessment was higher than any other the East India Company made in Bengal. The next year the European Collectors were replaced by Provincial Councils, a step in the direction of centralization, which was carried to an extreme in 1781, when the functions of all the Provincial Councils were undertaken by a Committee of Revenue sitting in Calcutta. Collectors were again appointed, but they were trusted with very little but routine work. A policy of decentralization was inaugurated as a step towards carrying into effect the provisions of the Act of Parliament of 1784 and the Collectors in 1786 were entrusted with the settlement of land revenue within their districts. Several years had been wasted and the uncertainty as to the proper assessment remained. The system of leases to the highest bidder was not repeated after the five-years settlement of 1772, the Board of Directors having decided in favour of annual settlements, where possible, with the zamindar himself. In certain cases, especially after 1786, when there were disputes between co-sharer zamindars, or when, for instance, the zamindar was a minor and settlement could not

be concluded with him and no other means of realizing the revenue seemed feasible, or when there were heavy arrears estates were held khas, *i.e.*, the Company's servants undertook the realizations from the tenants direct. Usually a native officer called a "Sazawal" was appointed, but in a few big estates the collections were placed in the hands of Europeans of the Company's service. When this happened the Company got its first real insight into the capacity of an estate and the last it was to get before the Permanent Settlement was concluded. Even then much depended upon the individual employed. One George Dandridge deputed to have charge of the collections of Parganna Bhulna in Noakhali district until he could effect a partition between two groups of co-sharer zamindars who were at loggerheads wasted two years there. He made himself a partizan against one group, failed to realize the revenue or make a satisfactory examination of the assets of the estate, and the Board dismissed him. By contrast Mr. Rawlins, who was afterwards a Member of the Board of Revenue, made a very complete measurement of the islands forming Parganna Sandwip at the head of the Bay and the taluqdars still know the area of their taluqs recorded by him and the rents which he settled and pay them, together with excess rent for excess area in their possession.

In 1787 when most of what is now the districts of Tippera and Noakhali was under the Collector of Mymensingh two adjoining Pargannas, Baradakhat and Gangamandal, the former one of the large Pargannas of Eastern Bengal and the latter nearly half its size, lying mostly on the east of the Meghna and west and north-west of the town of Comilla, were ordered to be held khas. The zamindars of Baradakhat were women, Gangamandal had been sold by its owner and it was found that his Local Agent had realized as much as he could of the next year's rent in advance and decamped with it. Both were heavily in arrears. In August Mr. David Paterson of the Company's service was put in charge of the collections and ordered to prepare an assessment roll for the next annual settlement of both estates on the basis of a detailed measurement of their lands.

Although much progress had been made in the direction of law and order Eastern Bengal, especially up and down the Meghna, was still the scene of activity of numerous bands of dacoits and the zamindars had not forgotten their old power or altogether given up their old methods of settling their differences. In 1781 the Raja of Tippera had made his preparations to resist the Company's Local Agent by force and a settlement of the trouble was only arranged by allowing him to retain Hill Tippera without payment of any revenue. In 1785 Raja Jugal Kishore of Mymensingh had plundered 26 and burned 4 villages of Singhda belonging jointly to Baradakhat and Maisurdi, and when Paterson took over charge of the collections of Baradakhat the Zamindar of Maisurdi wrote to him proposing an offensive and defensive alliance. Paterson referred him to the Magistrate of the district and wrote a characteristically indignant letter to the Board of Revenue on the subject.

Paterson had some qualification for the work given him to do, for he had previously been "Registrar of the Kanungo* Daftur" in Bengal, but what he undertook was a bigger and more difficult task than either he or the Board had estimated. That he knew all the tricks of the trade practised by the country surveyors is shown by his introduction—and apparently it was his own invention—of the system he called *dhuk purtall*, by which after a munsiff, as Bengal surveyors were then called, had made a list of the cultivated plots of a village with the area of each another munsiff or Paterson himself remeasured a percentage of the plots and the area of the other plots was written down so much more in proportion as it was found the remeasured plots were larger than they had been shown. The system was very unfair on individuals and the Board ultimately reduced the rents as much as Paterson had increased them by the use of it, but its invention shows that he knew his men. It was a year and nine months before Mr. Paterson finished his assessment and handed over the charge of the two Pargannas to

* The Kanungo was the Officer of Government attached in Mughal times to each zamindar whose duty it was to maintain the revenue records.

Buller, the Company's Agent in Tippera, who became a month or two afterwards the first Collector of the district.

Mr. Paterson's final letter to the Board of Revenue written in May 1789 contains two statements which I reproduce in full. The first is an analysis of the expenses of cultivation of the crops usually grown, the second of what is necessary for the maintenance of a well-to-do tenant. In commenting on his report the Board dealt rather unkindly with him and, almost in so many words, wrote that he had wasted his time on the examination which he made into the domestic economy of the tenants, seeing that he based his actual assessment not upon its results but upon the existing customary rates of rent which he found prevalent in the locality. But his figures are certainly interesting and I think instructive. These are the two analyses.

ESTIMATE NO. 1.

Expenses of Cultivation.

		Rs.	A.	P.
Do Shar or land capable of producing two crops at different periods with only once sowing.	Ploughing 3 Gottahs (1) 3 annas per Gottah	0	.9	0
	Labourers, *viz.*—			
	1st for clearing the ground from roots of grass, etc. 3 people 1 anna per man	0	3	0
Time of cultivation Maugh (4) and Phaulgun (4) one canny of land.	2nd for weeding 6 people 1 anna per man	0	6	0
	3rd for reaping, *viz.*—			
	Ouss (2) crop in Jeyt (4) 5 people 1 anna per man	0	5	0
	Amun (3) in Aughran (4) 7 people 1 anna per man	0	7	0
	Seed, *viz.*—			
	Ousse—3 cuttahs 1 anna per cuttah ..	0	3	0
	Amun—1 cuttah	0	1	5
	Total ...	2	2	5

Produce Ousse 5 maunds.
Amun 3 maunds.

(1) A Gottah Paterson explains is the day's work of a pair of ploughs. (2) Ous, summer rice (3) Amun, winter rice.

		Rs.	A.	P.
Ekshar—time of cultivation Maugh (4) and Phaulgun and at the close of Assar (4) in high ground.	Ploughing—3 Gottahs	0	9	0
	Clearing, etc., etc.	0	3	0
	Weeding	0	6	0
	Cutting in Jeyt and Assar (4) and in Cartik and Aughran	0	5	0
	Seed—4 cuttahs 1 anna 5 G per cuttah	0	5	0
	Total ...	1	12	0

Produce 9 maunds.

		Rs.	A.	P.
Kungnee (5) (Millet) time of cultivation in Aughran and Pouss (4).	Ploughing—3 Gottahs	0	9	0
	Clearing, etc.—4 Labourers ...	0	4	0
	Weeding—6 Labourers	0	6	0
	Cutting—6 Labourers	0	6	0
	Seed—2 seers, 1 anna per seer ...	0	2	0
	Total ...	1	11	0

Produce 4 maunds, time of cutting in Chaitra and Baisakh.

		Rs.	A.	P.
Call or Chuna (6) (a kind of millett)—time of cultivation in Aughran and Pouss.	Ploughing—3 Gottahs	0	9	0
	Cutting—5 Labourers	0	5	0
	Seed—3 Cuttahs	0	3	0
	Total ...	1	1	0

Produce 5 maunds.

		Rs.	A.	P.
Moong (7) time of cultivation in Maugh.	Ploughing—3 Gottahs	0	9	0
	Clearing, etc.	0	3	0
	Weeding	0	6	0
	Gathering	0	4	0
	Seed—2 seers, 1 anna per seer ...	0	2	0
	Total ...	1	8	0

Produce 2 maunds.

(4) The months of the Bengali year beginning from middle of April are :—Baishak, Jaistha, Ashar, Shrabon, Bhadra, Aswin, Kartik, Aughran, Pouss, Magh, Falgoon, Chaitra. (5) Kaun. (6) China. (7) Mung.

			Rs.	A.	P.
Mutter (8) **(Peas) time of cultivation in Aughran. Kissaree** (9) **the same.**	Seed—6 seers	...	0	3	0
	Gathering	...	0	4	0
	Total	...	0	7	0

Produce 7 maunds.

Kullae (10) **time of cultivation in Aughran and Bhadoor.**	Ploughing—3 Gottahs, 2 annas per Gottah	...	0	6	0
	Gathering	...	0	4	0
	Seed—2 seers	...	0	1	0
	Total	...	0	11	0

Produce 5 maunds.

Till (11) **or Cunjeed time of cultivation in Maugh.**	Ploughing—4 Gottahs	...	0	12	0
	Clearing, etc.	...	0	3	0
	Weeding	...	0	7	0
	Cutting	...	0	4	0
	Seed—2 seers	...	0	2	0
	Total	...	1	12	0

Produce 2 maunds.

Sersoo (12) **time of cultivation in Cartik. Cut in Phaulgun.**	Seed—4 seers—5 G. per seer	...	0	1	0
	Cutting, etc. —5 Labourers	...	0	5	0
	Total	...	0	6	0

In the *chers* no ploughing is necessary.
In other lands it is which will increase the expense.

Produce 3 maunds.

Kerpass (Cotton) time of cultivation in Cartik.	Ploughing—5 Gottahs	...	0	15	0
	Clearing, etc.	...	0	3	0
	Planting	...	0	4	0
	Forming beds and rows	...	0	7	0
	Weeding	...	0	9	0
	Gathering	...	1	14	0
	Seeds—2 seers, 5 annas per seer	...	0	10	0
	Total	...	4	14	0

Produce 4 maunds.

(8) Matar. (9) Kheshari. (10) Kalai. (11) Til. (12) Sarisa (mustard).

Sugarcane—		Rs.	A.	P.
Ploughing ...	4 Gottahs	0	12	0
Earth to form the banks of the enclosure ...	4 Labourers ½ anna per mile ...	0	6	0
Matts and work to make the enclosure ...	2 do.	0	2	0
Charra shoots or joints for planting ...	4,000, 8 annas per mile	2	0	0
Planting	4 Labourers	0	4	0
Making beds and rows ...	2 do.	0	2	0
Cutting and pressing, etc.	10 Labourers, 8 days	7	8	0
Boiling	3 do.	1	8	0
	Total ...	12	10	0

Produce—12 maunds raab or inspessated juice. Quarter of which being lost in the preparation of *gur* or molasses the produce of a canny in *gur* will be about nine maunds. The present price is Rs. 4 per maund ; but it sometimes is as low as Rs. 2.

	Labourers—	Rs.	A.	P.
Pawn (13) time of cultivation in Cartik; in Jeyt it begins to yield leaves proper for use.	Excavating the earth to the depth of ½ cubit	2	13	0
	Digging and bringing earth to fill up the excavation and raise the bed ...	3	4	10
	Bamboos and reeds to enclose, etc. ...	2	0	0
	Bamboo for making the shed covering...	2	8	0
	Bamboos for posts	1	0	0
	Bazail, (14) Kagree, (15) and Null (15) for covering and supporting the vines ...	4	0	0
	Rattans for tying the whole together ...	0	12	0
	Grass	2	0	0
	Work in rearing and preparing the above	1	14	6
	Forming beds and rows	0	15	0
	Plants—25,000—4 annas per mile ...	6	4	0
	Planting	1	9	0
	Cullee (16) (or refuse of the Sursoo after the oil has been expressed for manure)	5	0	0
	Coolies in constant employment for destroying worms, Watering, weeding, etc. ... 2 at Rs. 2 per m.	48	0	0
	Total ...	81	15	0

(13) Pan. (14) Small bamboos. (15) Reeds. (16) Kail.

Note.—The unit of area used the canny (kani) Paterson explains is 5880 square cubits which works out to ·204 of an acre.

"Its produce cannot be exactly ascertained, there being no particular season of harvest. The leaves are taken away from time to time as they ripen. The apparatus above mentioned is not a yearly expense ; it will last for three years without the necessity of repairs. The pawn is a creeper, and is tied loosely to the reeds with blades of oolloo grass as it rises. It will produce for six or seven years as managed in these pargannas ; they never suffer it to rise above the choppa, but instead of shortening it by cutting they take hold of the stalk near the root and drawing it out make a fold in the stalk which they cover with earth and cullee-tying up the top as before to the reeds. It shoots and rises quickly again, and as often as it attains its former height another fold is taken up. The annual value of a canny of pawn is estimated at Rs. 150."

ESTIMATE No. 3.

"Of what is necessary for the maintenance of a reiatt exclusive of occasions of grief and rejoicing."

A Hindu family in respectable circumstances, 16 souls,

ARTICLES OF CONSUMPTION.	Per diem.	Per annum.	Price.	Total.	Annual.	Occasional.
						Rs. As. P.
Rice ...	16 seers	146 mds	30 seers	199 13 17	199 13 17	... ...
Salt... ..	½ seer	4 22½ seers	10 ,,	18 4 0	18 4 0	... ..
Oil ..	½ ,,	4 22½ ,,	6 10½ chs.	27 6 0	27 6 0	... ..
Turmeric ...	⅛ ,,	1 5 10 chs.	22 seers	1 6 16 1	1 6 16 1	.. ...
Pepper ...	⅛ ,,	1 5 10 ,,	16 ,,	2 13 12 2	2 13 12 2	...
Ginger ...	1 chittack	0 22 13 ,,	16 ,,	1 6 16 1	1 6 16 1	.. ...
Dhunea, etc. ..	1 ,,	0 22 13 ,,	16 ,,	1 6 16 1	1 6 16 1	. ...
Pawn ...	1 beera (1)	365 brs.	64 beeras	5 11 5	5 11 5	......
Suparee ...	15 nuts	27 12½	5	5 8 7 2	5 8 7 2	......
Tobacoo ...	⅛ seer	1 5 10 chs.	10 seers	4 9 0	4 9 0	......
Gur ...	⅛ ,,	1 5 10 ,,	10 ,,	4 9 0	4 9 0	... ..
Fish ...	1 anna	......	...	22 13 0	22 13 0	.
Vegetables ...	15 gundas	......	... ..	17 1 15	17 1 15	.. ...
Chunam ...	......	......	..	0 12 0	0 12 0	... .
Firewood .	15 gundas	.	...	17 1 15	17 1 15	......
Teekea (2) ...	......	.	.. ...	0 12 0	0 12 0	...
Earthenware ...	....	...	...	2 0 0	2 0 0	.
Selora ...	.....	......	... ..	1 0 0	...	1 0 0
				0 6 0	.. ...	0 6 0
TOTAL ...	. .. ...	. ...	... ..	334 14 3	333 8 3	1 6 0

(1) 72 leaves. (2) Thikia, a slow burning match.

CLOTHING.	... ..	No. of articles.	Price per piece.	......	. ...	... ..
				Rs. As. P.	Rs. As. P.	Rs. As P.
Phota (3) ...	8 women	32	8 annas	16 0 0	16 0 0	......
Cooneha (4) ...	8 men	24	8 ,,	12 0 0	12 0 0	... ..
Deerpattee (4) ..	8 ,,	16	8 ,,	8 0 0	8 0 0	.
Ghillauf (4) ...	.....	8	1 anna	8 0 0	8 0 0	... ..
Night clothes ...	......	16	3 annas	3 0 0	3 0 0	... ..
Gamcha (5) ...	......	16	1 anna	1 0 0	1 0 0	......
TOTAL ...	.. ...	.....	... ..	48 0 0	48 0 0	.. ...
BEDDING.						
Pattees (Mats)	......	12	3 annas	2 4 0	2 4 0	......
Coarse Mats Mulloomah	... .	32	¼ anna	1 0 0	1 0 0	. ...
Quilts ...	.. ...	8	3 annas	24 0 0	......	24 0 0
Pillows ..	...	16	2 ,,	2 0 0	...	2 0 0
TOTAL ...	...	... .	.....	29 4 0	3 4 0	26 0 0

SUNDRIES.	No. of articles.	Price.	Total	Annual expense.	Occasional expense.	....
			Rs. As P.	Rs. As. P.	Rs. As. P.	
Repairs of house	. .	...	10 0 0	10 0 0	......	...
Boat ...	1	...	7 0 0	.. . .	7 0 0	... ..
Codal (6) ...	2	6 annas	0 12 0	..	0 12 0	......
Corallee (6) ...	1	8 ,,	0 8 0	.....	0 8 0	... .
Hedges Bill .	2	6 ,,	0 12 0	.. ...	0 12 0	...
Caunttee (6) ...	2	1 anna	0 2 0	.	0 2 0	......
Handsaw ..	1	2 annas	0 2 0	... .	0 2 0	... ..
Washerman ..	......	... .	1 8 0	1 8 0	...	......
Barber .	......	......	1 8 0	1 8 0	. ..	. ...
Shoes .	8 pairs		1 0 0	1 0 0	...	. ...
Currum (clogs) ..	8 ,,	... ..	0 12 0	.	0 12 0	..
TOTAL		.	24 0 0	14 0 0	10 0 0	......

CATTLE, INSTRUMENTS OF HUSBANDRY, ETC.	No. of articles.	Price.	Total.	Annual expense	Occasional expense.
		Rs.	Rs As. P.	Rs. As. P.	Rs. As. P.
Oxen	20	4 each	80 0 0	......	80 0 0
Cows	8	4 ,,	32 0 0	... ..	32 0 0
Annual servants for ploughing the ground, feeding the cattle and cutting grass ...	5	2 per man	120 0 0	120 0 0	......
Boat for cutting and bringing grass ...	1	......	15 0 0	...	15 0 0
Oars, paddles, etc ...	......	......	2 0 0	...	2 0 0
Dao for cutting grass ..	4	6 annas	1 8 0	1 8 0	......
Noong-ul (plough) .	5	0 6 8 pies	2 2 0	2 2 0	... .
Chunga for smoothing the ground	2	0 2 0	0 4 0	0 4 0	...
Assra (Harrow)	1	0 8 0	0 8 0	...	0 8 0

(3) Word now used for a Muhammadan's clote (4) Words not now used. (5) Towel. (6) Hand instruments of agriculture.

		Rs. As. P.	Rs. As. P.	Rs. As P.	Rs. As. P.
When cut sholas (7) for bringing in the grain ..	8	0 2 0	1 0 0	1 0 0	....
Cordage	.. .	......	3 0 0	3 0 0	......
Carpenters' wages ..	. . ..	6 annas per plough	1 8 0	1 8 0	......
Builders	.....	ditto	1 8 0	1 8 0	...
Seed for 7½ dorns	30 mds.	1¼ mds.	20 0 0	20 0 0	......
Till do. 8 cannies	32 seers	1 md.	1 0 0	1 0 0	......
Sursoo do. for 4 cannies	16 ,,	.	0 8 0	0 8 0	.
Reapers, 2 months ...	15 men	... .	60 0 0	60 0 0	......
Cycles	20	1 anna each	1 4 0	1 4 0	...
Clearers and Weeders ...	.. .	...	10 0 0	10 0 0	...
Wooden Mortars ...	4	6 annas ea.	1 8 0	... .	1 8 0
Do. Pestles .. .	8	2½ ,, ..	1 4 0	. ...	1 4 0
Golahs for grain	5	......	5 0 0	......	5 0 0
TOTAL ...	......	...	360 14 0	223 10 0	137 4 0

UTENSILS, ORNAMENTS, ETC.	No. of articles.	Price	Total.	Annual expense.	Occasional expense.
		Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
Hookas ..	.. ...	.. .	5 0 0	... ..	5 0 0
Paundawn (8) and Salver ...	......	..	4 0 0	...	4 0 0
Taillee...	4	1 8 0	6 0 0	......	6 0 0
Stone dishes	4	1 0 0	4 0 0	...	4 0 0
Lota (brass pot)	4	1 8 0	6 0 0	...	6 0 0
Cuttoora (brass cups) ...	2	1 0 0	2 0 0	. ...	2 0 0
Tussla (brass stewing pan) ...	1	2 0 0	2 0 0	...	2 0 0
Red lead for the women ..	......	1 0 0	1 0 0	1 0 0	. . .
Sunk (9) for the wrists ...	8 pairs	7 per pair	56 0 0	.. —	56 0 0
Nutt (nose rings) gold ...	8	5 each	40 0 0	......	40 0 0
Ankle rings (silver) .	8 pairs	10 per pair	80 0 0	.. ...	80 0 0
TOTAL	......	.. ...	206 0 0	1 0 0	205 0 0

Expenses attending the Ceremonies of Religion.		Annual.	Occasional.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
At the Dussahara	50 0 0	50 0 0	
Hooly	15 0 0	15 0 0	
Kalli Poojah—3 times	24 0 0	24 0 0	
Daily Poojah As. 4 per day... ..	91 4 0	91 4 0	
Taut (Brass Salver)	4 0 0	...	4 0 0
Coosha and Cooshe (Copper basins a singular form)	3 0 0		3 0 0
Tripod brass or mixed metal ...	2 0 0	.	2 0 0
Poospa Patra brass pot for flowers ...	3 0 0		3 0 0
Bell, Cassee (10) and Cherang dawn (11)	5 8 0	...	5 8 0
Shunkha (Shells) 2, 1 for sounding and 1 for holding water	2 8 0	.	2 8 0
Total ...	200 4 0	180 4 0	20 0 0
		Annual	Occasional.
Total Expenses ...	1,203 4 3	803 10 3	399 10 0

(7) Sachs. (8) Pandan receptacle for holding betel. (9) Sanka, large shells. (10) Cymbals. (11) Lamp holder.

" A Mussulman family in similar circumstances differ from the Hindu in the addition of onions and garlic to their food and less pawn being consumed. They likewise are less expensive in their clothes, ornaments and utensils. A Mussalman cultivates his land himself which a Hindu cannot do without loss of caste, as none amongst them but those of the Gowalla, Barber and Haree caste ever follow the plough. He is therefore obliged to go to the expense of hired servants for that purpose. The expenses of a Mussalman for religious ceremonies are not so great as those of the Hindu."

" In the foregoing account the present price of the articles are set down. I have supposed everything although, a great part of the produce of his land, to be purchased, and although the labour is almost all performed by the raiyat and his family. I have supposed that to be paid for ; in like manner such articles as are the produce of his ground I have marked ; with regard to the expenses attending religious ceremonies, they vary according to the circumstances in which the raiyat finds himself when the occasions occur."

" The articles of pepper, turmeric, onions, garlic and ginger are highly productive, but require so much pains and attention that no raiyat undertakes to cultivate all these articles himself. He keeps to one or two of them and what remains beyond the consumption of his own family he considers as a fund for barter."

" A poor raiyat does not differ materially from the foregoing account with respect to the articles of diet, his consumption is proportionate to the number of persons in his family. His expense in clothes is much less as likewise with regard to the ceremonies of religion."

" During the time he can spare from his own little field, he hires himself out as a labourer, whilst his wife employs herself at home in spinning of cotton. A raiyat of this description cannot afford to cultivate above 2 cannies of land at farthest and to do that he must be allowed tuccavi, the produce of his land with the above occasional resources could not maintain him, especially if he has a family. He resides generally upon the lands of some

substantial raiyat as a part of his family by which he secures an exemption from the payment of any bitta jama. By these aides he makes a shift to live from hand to mouth, and pay the rent of his two kannies; this class of raiyats are by far the most numerous."

Mr. Paterson was not equally careful in all things he did—Mr. Buller, to whom he made over charge, complained to the Board that he had not kept copies of any of the letters which he had sent—but in these investigations of his he seems to have spared no pains. His account of the growing of pan (betel leaf) and the following prices of the routine of an agricultural year which he gives elsewhere in his report are descriptions perfect in every detail of the manner of cultivation to-day.

"The progress of cultivation is thus:—The amun crop being cut in Aughran the reaper scatters kissaree amongst the stubble, while the soil is still moist and soft from the inundation, which springs up without further trouble and is reaped in Phalgun; the stubble and stalks of the kisseree are then set on fire and the ashes ploughed in with the soil. The suttea dhan (1) mixed with amun is then sown—the suttea being of very quick growth is ripe in Jeyt or Assur. It is then cut and the amun, which is of slower growth, rises with the water and is cut in Aughran * * * The inundations if not sudden or violent in Assur do no harm, but do much if sudden or violent as the amun is as that time young and the ouss and suttea ready to cut. It may be admitted that caney will yield 12 maunds of paddy in the year ; the intermediate crops of sursoo, til, or kissaree produce an average from 4 to 2 maunds, sometimes six, but rarely."

Many of Mr. Paterson's figures can be checked. The method of cultivation having remained unchanged, the amount of produce for each crop, the amount of seed required to be sown and the number of ploughs and labourers necessary are the same to-day as they were when he wrote. In such figures he is almost always correct. That being so it is safe to accept the rest of his figures. There are two

(1) Saitha, a fast grown kind of summer rice so called because it ripens in 60 days.

places in the first analysis where there are mistakes which may very likely be mistakes in copying. The first is the entry of 3 maunds as the produce of winter paddy when both summer and winter paddy are sown together. In the last quotation he mentions that the total produce is 12 maunds, and the present day when the two crops are sown together the winter rice produces the greater outturn. The entry three maunds should be seven maunds. The second place is when the outturn for mattar (peas) and keshari are written 7 maunds. The figure is too high and is again contradicted by the last quotation I have made. In subsequent use of the figures in the statement I have taken the produce to be 5 maunds per kani instead of 7 maunds.

The second of the two analyses is interesting, but except in detail it is not as valuable as it might have been had Paterson been careful to chose for his subject the domestic budget of an average cultivator. The family he chose for examination seems to correspond to that of a middle class taluqdar of the present day holding all his land in his own immediate possession. In his analysis of his jamabandi (assessment) roll Paterson records that in the area held direct under the zamindari, *i.e.*, where no middlemen intervened there were 15,523 families cultivating 12,323 drones of land, four-fifths of a drone for each family on the average, but the family which he chose he showed as requiring rice seed for 7½ drones. The Board commented as follows:—

"We cannot conceive Mr. Paterson's estimate of Rs. 333-8-0 for the food alone of a family of 16 persons to be in any degree applicable to the majority of the raiyats of the district much less his general estimate for the articles of consumption, bedding, cattle, utensils, etc., amounting altogether to Rs. 803-10-0 besides occasional expenses amounting to Rs. 399-10-0. If, however, the assessment has not been regulated by these considerations their degree of accuracy is immaterial. We have pointed out the objections to them only to prevent your confiding in them without further enquiry on any future occasion when they might be thought to apply."

Paterson's own words regarding the poorer raiyats at the foot of his analysis show that he knew he was describing the expenditure of a rich family.

There are still similar taluqdar families in Baradakhat, but as the class is not an essential element in the agricultural population a comparison with the total expenses of a middle class taluqdar of to-day would be rather interesting than valuable to a student of economic history. The picture of family life which is given is certainly interesting; the same necessities and luxuries were consumed then as now, the same implements of agriculture, the same household utensils and the same ornaments were in use. The articles of clothing are somewhat different. Men of that class now wear shirts (say four new ones a year at Rs. 1-4-0), coats (two a year at Rs. 2-4-0), chadar and dhuti and the women chemises (four a year at Rs. 1-8-0), as well as their unmade wrappers. Their plain cotton cloths before the war cost about Rs. 2 instead of only 8 annas and are now much more expensive. Night cloths as we understand them are not used and it is doubtful what Paterson meant by them. Mosquito nets and sheets are now used and for economy half-a-dozen children may sleep in one bed. A Bengali reading the prices which Paterson quotes will lament a golden age. Picking out a few of the items and comparing their price with the price to-day gives such figures as these:—

	Price in 1789.	Price in 1913.
Rice ...	30 seers a rupee.	7 seers a rupee
Turmeric ...	22 ,,	10 ,,
Ginger ...	16 ,,	5 ,,
Tobacco ...	10 ,,	4 ,,
Gur ...	10 ,,	4 ,,
Pan ...	64 beeras a rupee	5 beeras a rupee
Cattle ...	Rs. 4-0 each.	Rs. 40-0 each.
Stone dishes ...	,, 1-0 ,,	,, 3-0 ,,
Lota (brass pot) ...	,, 1-8 ,,	,, 4-8 ,,
Silver ankle rings	,, 10-0 a pair	,, 30-0 a pair.

Expenses in religious ceremonies are a little difficult to compare. A Bengali Hindu spends much at Puja time on clothes for himself and the women of the house and most of what he spends goes in such necessaries. Actually to have a performance of the Durga Puja costs about Rs. 150. The Holi is nowadays almost out of use. Daily Puja is only made when there is an image of the goddess kept in the homestead which is not a common thing.

The prevailing use of kerosine has kept down the price of oil for lighting purposes. Salt cost, until the war came, very little more than it did 100 years ago, but is of better quality, and while the initial cost of the corrugated iron sheds in the homestead of such a family is higher, the cost of annual repairs is very much less than for thatched houses.

Turning back to Paterson's first analysis—he unfortunately omitted to give anywhere in his letters the prices of crops other than paddy which he states was selling at 1 maund and 10 seers per rupee (1), but there is in the proceedings of the Dacca Provincial Council on 22nd August 1774 a statement of the prices current in the mufassal at that time. They are known to have risen considerably in the last quarter of the 18th century. Paddy was sold at 2 maunds 20 seers per rupee in 1774. Increasing the price of the other field produce from those of 1774 in the same proportion as the increase in the price of paddy we got approximately the following prices for the following crops in 1789 :—

Mung	30	seers	per rupee.
Peas	1	maund	,,
Keshari	$1\frac{1}{8}$	,,	,,
Til	15	seers	,,
Mustard	20	,,	,,

Cotton is not now grown at all. Paterson himself gives the value of the produce of sugarcane and betel-leaf crops. The prices of millet

(1) Paterson speaks of the price current in 1789 as a normal one, but it is very much higher than the 8 annas a maund which Sir John Shore and Mr. James Grant were in the habit of using as the average price about the same time. The high price is probably due to the great flood and famine of 1787-88.

and kalai are not given in the Dacca list and I shall leave those crops out of the present comparison.

The mode of cultivation of the various crops is exactly the same then as now and I have made a careful estimate of the cost of cultivation of them including the cost of ploughing and labour, although in actual fact the cultivation is more often performed by the raiyat with his own plough and the labour of his family or by exchange of labour. For an Eastern Bengal district the hire of plough and cattle and the wages of agricultural labourers is comparatively low. I have taken 6 annas to be hire of a plough at each ploughing (half a day) and 6 annas the pay of a labourer per day, and used the prices current just before the war. The following table shows the comparative expense, gross value of the produce and net profit for each crop for an acre of land in 1789 and 1913 :—

Crop.	1789.									1913.								
	Expense.			Gross value of crop.			Profit.			Expense.			Gross value of crop.			Profit.		
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
Summer and winter rice sown together	7	2	0	32	0	0	24	14	0	33	0	0	115	0	0	82	0	0
Summer and winter rice sown separately ..	5	12	0	24	0	0	18	4	0	23	0	0	73	0	0	50	0	0
Mung	4	15	0	8	14	0	3	15	0	15	0	0	38	0	0	23	0	0
Mattar	1	7	0	16	10	0	15	3	0	14(²)	0	0	56	0	0	42	0	0
Keshari ...	1	7	0	14	13	0	13	6	0	10	0	0	47	0	0	37	0	0
Til	5	12	0	18	12	0	13	0	0	18	0	0	26	0	0	8	0	0
Mustard ..	3	2(¹)	0	20	0	0	16	14	0	14	0	0	50	0	0	36	0	

On the whole the proportion of the gross produce which has gone in the expense of cultivation has not much changed. The net profit per acre has generally quadrupled itself for food grains. It is only in the oil seeds that the profit has not been so multiplied and this is due to the general use of kerosine for lighting. In the case of til it has apparently actually been reduced. Nowadays the cultivator only

(¹) The land had to be ploughed for mustard except in *char* lands.
(²) The land is nowadays almost always ploughed for this crop.

grows til in small quantities for home consumption. Sugarcane and betel-leaf were very profitable crops in Paterson's time and they are very profitable crops now, an acre of sugarcane will nowadays give a profit of Rs. 150 per acre and an acre of betelnut garden will bring in Rs. 1,200, but they are crops which most tenants in Baradakhat do not or cannot grow. Sugarcane only grows in certain areas and on specially high land and betel-leaf is grown only by men of the Bárai caste.

In Paterson's day every raiyat grew some cotton. Baradakhat was one of the main sources of supply to the Company's weavers scattered about the area round Dacca who took advances and supplied the Company's factories with cloth of all kinds from coarse cheap material to the fine muslins and expensive embroideries for which Dacca was so famous. He wrote :—

"Cotton is cultivated universally, raiyats whose land will not admit of cotton being grown taking up land in other places proper for it, for cotton rises in value proportionately to the cheapness of rice, etc. * * * Salt is the only article which a raiyat purchases with money, everything else is by barter of the produce of his ground —his washerman and barber are paid in grain, the clothes that he wears are produced from the cotton grown on his own land spun by his wife and delivered to a weaver who is paid for his work in grain."

Now there is not a cotton plant in the parganna and not one cultivator in a hundred would recognize one if he saw it. By the time of the Revenue Survey of Tippera 1861-62 cotton cultivation in the plains had disappeared and the only cotton produced in these parts came from Hill Tippera. The local weaving industry did not die with it. It was because English thread was cheaper and better than that produced locally that it supplanted it. Using English thread the weaving industry dragged out a long period of decline. There are still a few weavers who carry on their handicraft with the same crude appliances of Paterson's time but they are few. The weaver caste

has not taken to agriculture; it holds itself above all manual labour except weaving and has become nothing but another parasite on the agricultural classes. The number of the weaver caste in Tippera district is about 70,000 and almost all are middlemen in the land system or money-lenders. For the cultivator jute has taken the place of cotton. Now almost every raiyat grows jute on some of his land. A comparison between the cost of cultivation, etc., of the cotton crop in 1789 and the jute crop in 1913 such as has already been given for the food crops works out approximately as follows:—

	Cotton in 1789.			Jute in 1913.		
	Rs.	A.	P.	Rs.	A.	P.
Expense per acre of cultivation	15	13	0	40	0	0
Gross value of product	20	0	0	200	0	0
Profit per acre	45	3	0	160	0	0

In Paterson's time the raiyat made more than this out of his cotton because his womanfolk would spin it and it would be the yarn that would be sold, but even so jute is proportionately a many times more profitable crop to the grower than cotton used to be. Since the war began the price of jute that used to fetch Rs. 9 per maund has gone down to Rs. 5, but even so the crop is the most profitable one a cultivator can grow. I have purposely used prices of 1913 in preference to later prices, for the latter are abnormal. When conditions again become normal prices may be expected to rise again, jute as high as before and food grains back to their former level regaining the 30 per cent that they have lost.

An average Baradakhat raiyat nowadays has about 4 acres of land under cultivation. In a comparatively high area he may be expected to grow in the Bengali year beginning in April, first, say, 1½ acres of jute and 2 acres of summer rice; for his next harvest he plants 3 acres with seedlings of winter rice; before that is cut he sows half an acre of mustard; after the paddy is cut he sows half an acres of peas and an acre of keshari, the last without ploughing. From what Paterson says it seems likely that, although there were large tracts of waste land, cultivation was thus intensive even in his

day owing to the difficulty and expense of keeping the ground clear when it was not kept under the plough. The profits of the same 4 acres cultivated in the same way in 1789 as in 1913 except that instead of jute cotton was grown would compare as follows :—

	Expenses of cultivation.			Gross value of crop.			Net profit.		
	Rs.	A.	P.	Rs.	A.	P	Rs.	A.	P.
1789 ..	56	4	0	194	10	0	138	6	0
1914 ...	199	0	0	765	0	0	566	0	0

The value of the gross produce has risen by 290 per cent., the cost of cultivation was 29 per cent. of the value of the produce in 1789 and 26 per cent. in 1913.

The rates of rent which Paterson found current and upon which he based his assessment varied considerably in different parts of the parganna and there were special rates for lands bearing certain crops such as betel-leaf, but for the 12,323 drones found under cultivation in the khas, *i.e.*, held direct under the estate the assessment was Rs. 1,68,925-1-0 so that the rate was about 13½ annas per kani or 2-13½ annas per acre. Paterson abolished 9 separate abwabs, which had been imposed by the zamindar within the preceding 15 years and had added 25 per cent to the rates, but his more accurate measurement than that formerly the basis of the zamindars' assessments rather more than made up the difference in the total assessment on the tenants. The rates of rent now current in the same area vary as much as they did then. On an average the rent now is about Rs. 4-8-0 per acre. The cultivators' rent was therefore 8½ per cent of the net profits of his cultivation in 1789 and is now only 4 per cent. The Permanent Settlement of Baradakhat was ultimately concluded at a rather lower revenue than that which was based on Patterson's assessment, but even so the estate came into the hands of Government share by share, there being no bidders in sales for arrears of revenue. The zamindari was broken up into parcels. Most of them were permanently settled, while the proprietary right still vests in Government in the rest. This being so it is difficult to

carry the comparison further to the proportion of the net profits of agriculture which were appropriated by the Government revenue in 1789 and in 1913, but the percentage has diminished during the period appreciably faster than the percentage appropriated by the rent.

W. H. THOMPSON.

" The first criticism of the comparison that has been made will be that it would have been more satisfactory if the average of prices over a period of some years on the earlier and the later date have been used. But at the early date only the figures for the one year, and that a year of comparatively high prices, are available and it is for that reason that the prices of another year of high prices, 1913, have been taken. A warning, moreover, is necessary to anyone who would apply the conclusions to a part of Bengal other than the corner east of the Meghna."

INDIAN GUILDS.

THE guild system has played an important part in the industrial life of India, from very ancient times. The laws of guilds discussed by *Manu* (*c.* 1st century A.D.), *Yajnavalkya* (*c.* 200—300 A.D.), give us a glimpse of the laws of early Indian Corporations. The circumstances that led to the origin of Indian guilds cannot, however, be known definitely. Possibly they came into existence in the following manner. Village communities have existed in India from remote antiquity. In a typical Hindu village, communal affairs were managed exclusively by agriculturists. The artisans who lived in each village to minister to the wants of the agriculturists had no share in the village government. They were all "strangers within the gate." An artisan would therefore naturally migrate to a neighbouring town, where he would also get a larger number of customers and greater facilities for his work. In this way, the number of artisans increased in towns and they formed associations of their own like the agricultural associations of the village.[1]

The earliest apparent reference to guilds is in the *Brahmanas*, the theological prose treatises composed *c.* 800—500 B.C. The word "*shresthin*" occurs in certain passages of the *Brahmanas*.[2] "It is possible," remarks Professor Macdonell, "that the word may already have the sense of 'the headman of a guild,' the modern

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1 Birdwood—Industrial Arts of India, p. 137. See also *Bombay Gazetteer*, Vol. IV, p. 106.

2 The word "*shreshthee*" occurs in *Aitareya Brahmana* III, 30, but it means there a rich man and from the context it appears that the word cannot have any reference to "the headman of a guild." The word also occurs in *Kausitaki Upanishad*, IV, 20. Max Müller uses the term in the sense of "master." See his translation of *Kaus. Up.* in S. B. E. S., Vol. I. Upanishads, Part I, p. 307.

Seth." But our evidences from the Vedas[3] and the *Brahmanas* are so meagre that we cannot definitely say whether guilds existed during the Vedic period. During the post-Vedic period, however, we come across distinct references to guilds. Thus they are mentioned in the *Dharma Sutras*[4] and in the great Epics.[5]

There are also frequent allusions to guilds in the early Buddhist literature. In the age of the *Jatakas*, the most important branches of handicraft were organised into guilds. Mrs. Rhys Davids writes :—" The chief industries were organised into guilds (*seniyo*) under a president (*pamuka*) or alderman (*jetthaka*).[6] Eighteen guilds[7] are mentioned in the *Jatakas*, *e.g.*, the associations of " carpenters, smiths, leather-workers, painters and the rest expert in various arts." All these were therefore craft guilds. Prof. Rhys Davids is of opinion that these were similar to the guilds of mediæval Europe. But unlike the European guilds, these had powers of arbitration between their members and their wives ! In those days the presidents of guilds were sometimes men of considerable influence.[8]

An important development of guild organisation in this age was the appointment of a permanent official, the Treasurer, who settled disputes among different guilds. Thus, it is stated in the *Nigrodha Jataka*[9] that a king of Benares offered the post of

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3. In R. V. I. 126 the word " *shreni* " occurs, but is not used there in the sense of a guild.

4 In *Gautama's* work composed not later t' an c 500 B.C., the oldest *Dharma Sutra* that has been preserved, we have a vague reference to the laws of the artisan class. Thus he writes—" Cultivators, traders, herdsmen, money-lenders and artisans [have authority to lay down rules] for their respective classes " *Gautama* S. B. E. S. Vol. II, XI, 21, p. 234. [See also Hopkins—India Old and New, p. 170.] In *Gautama* XV, 18, p. 254, we come across the phrase " servant of a guild."

5 In the *Ramanaya*, there is a distinct reference to guilds. The word " *Naigamas* " occurs in the 83rd chapter of the *Ayodhya Kanda*, sloka 11, (*Bangavasi* Edition), and in slokas 12—16 there is mention of a long list of artisans, *e.g.*, jwellers, potters, weavers, armourers, etc., followed by their chiefs

In the Mahabharata, the word ' *gana* ' frequently occurs, but the nature and characteristics of " *gana* " discussed in the *Santi Parva* (107th chapter, slokas 6—32) lead me to the conclusion that the word is used there in the sense of a political association and not of a trade guild.

6 Mrs. Rhys Davids—Notes on Early Economic Condition in Northern India. J.R.A.S. 1901.

7 *Jatakas*, Vol. VI. p. 14. See also Rhys Davids—Buddhist India, Chapter VI, p. 90.

8 *Jatakas*, Vol. III, No. 387, p. 178.

9 *Jatakas*, Vol. IV, No. 445, p. 27.

Treasurer with which "went the judgeship of all the merchant guilds" to his friend *Pottika*. Apprentices are also mentioned but not the rules of apprenticeship.[10]

Going next to the *Arthashastra*, which modern researches have definitely established to be a genuine product of the Maurya period (*c.* 300 B.C.), we find also numerous references to guilds of artisans. Guilds in Kautilya's days must have been wealthy institutions, for they had their deposits which they received back in time of distress.[11]

In the code of Manu, which in the present form dates from the beginning of the Christian era, the laws of the guild stand on a footing of equality with the laws of castes and of families.[12] At this period, therefore, guilds were more organised than they were in the days of the *Gautama Dharma Sutra* when the laws of the artisan class lacked definiteness. This process of development began to continue, and in the Buddhist legend of *Purna* we find reference to a strong merchant guild controlling the trade of the city of *Sopara* in the Bombay Presidency during the 4th century A.D.[13]

In the *Narada-smriti*, which according to Jolly belongs to *c.* 500 A.D., there is an interesting description of the rules of apprenticeship. But this of course does not by itself prove that industry was then organised in associations. We learn from *Narada* that the master made an agreement with his apprentice as to the period of apprenticeship and the latter had to live in his master's house, till the expiration of that period. If the apprentice forsook his master, he might be "compelled by forcible means to remain" at the

10 *Jatakas*, Vol. I, No. 47, p. 120.

11 Pp. 54, 235 and 455 of *Arthasastra*, translated by *Shamasastry*.

The fourth class of Indians described by Megasthenes in his account "of the Seven Castes among the Indians" probably included the members of "the great Trade Guilds, many of which received land and other privileges in return for the service rendered to the State." —See Rawlinson's Intercourse between India and the Western World, p. 53.

12 In *Manu*, viii, 40, we find that—

"[A king] who knows the sacred law, must inquire into the laws of castes, of districts, of guilds and of families, and [thus] settle the peculiar law of each."

13 *Bombay Gazetteer*, Vol. XIII, Part II, p. 406.

Sopara, the capital of the Konkan between 500 B.C. and 1300 A.D. was an important market town even in the 1st century A.D. See Periplus, p. 43 (Schoff's Edition).

master's house, and would deserve "corporal punishment and confinement." But the master was not to ill-treat the apprentice. He was "to treat him like a son" and teach him his own craft. He would receive food from his master but no salary. On the other hand, the profit of the work done by him belonged to his master. When the apprentice had "learnt the art of his craft within the [stipulated] period," he returned home, rewarding his master "as plentifully as he could." [14]

In the *Brihaspati-smriti*, which belongs to a somewhat later period, there is an allusion to a board of advisers to companies of artisans and other associations. Whatever was done "by those [heads of an association] whether harsh or kind towards other people" was to "be approved of by the king!" But if the heads of an association injured any member of the fellowship, the king was to restrain them.[15]

There are also numerous inscriptions giving us positive proofs of the existence of guilds during the early Hindu period. The earliest inscription, known to me, in which craft guilds are distinctly mentioned, is the Nasik Cave Inscription of *Ushavadata*. It refers to an endowment by *Ushavadata*, son-in-law of King *Nahapana* to the members of a *Samgha*, which was deposited with the weaver's guilds of *Govadhana* on the condition that the interest only was to be enjoyed but the deposit was never to be repaid.[16] *Nahapana* may, according to Vincent Smith, be placed approximately between 60 and 90 A.D.[17] So, as early as the 1st century A.D., there was in the Bombay Presidency rich and highly developed craft guilds which received permanent deposits of money and paid interest on

14 *Narada*, S.B.E.S., Vol. XXXIII. V. 16—21. Pp. 133-134; in the Introduction, 7, p. 6, there is a distinct reference to guilds. See also Hopkins.

15 *Brihaspati*, S.B.E.S., Vol. XXXIII, 19. Pp 347—349. See also Hopkins.

16 Nasik Cave Inscriptions—*Epigraphia Indica*, Vol. VIII, Part III, No. 12, plate v. According to Senart, the rates of interest which the weavers' guilds of *Govadhana* undertook to pay on permanent deposits were 12 per cent. and 9 per cent. per annum. See also Bhandarkar's Early History of the Dekkan in *Bombay Gazetteer*, Vol. I, p. 176. Some of the Junnar Buddhist Cave Inscriptions mention similar investments of money with guilds of braziers, bamboo-workers and some other guilds.

17 Smith's Early History of India (3rd Ed.), p. 209. But see also R. D. Banerjee's article in J.R.A.S., 1917.

them for generations. This fact proves that they were safe and well-established institutions in those days.

Another Nasik Cave Inscription of the 2nd century A.D. tells us that a sum of money was permanently deposited with the guilds, of potters and oilmillers and certain other guilds to provide from its interest medicines for the sick of a community of monks.[18] In another interesting inscription of a later period, we find how a number of silk-weavers migrating from Gujrat formed a flourishing guild in the city of *Dasapura* (modern Mandesor, in Malwa). This guild built in that city a temple of the Sun in A.D., 437-438. Later on, when the temple fell into disrepair, it was restored by the same guild.[19]

Excavations at Basarh (North Bihar) have also led to the discovery of interesting clay seals "referring to the corporation or guild (*nigama*) of bankers (*shresthin*), traders (*sarthavaha*) and merchants (*kaulika*)." These seals belong to the 4th and 5th centuries A.D. On one of them, there is a hemispherical object, probably a money chest, the symbol of a merchant guild and the following words, "*Sresthi-sarthabaha-kulika-nigama*," *i.e.*, the corporation of bankers, traders and merchants.[20] Such seals were probably used in connection with the business transactions of these corporations.

Epigraphic evidences also show that as early as the 10th century and possibly in much earlier times, there were in South India "professional guilds, who settled among themselves the business that concerned their particular community." "But no rules regulating the management of [such] assemblies have come to light." [21]

In the *Sukraniti*, which in its present form probably dates from the 10th or 11th century A.D., we find that "artisans were to decide

18 Nasik Cave Inscriptions—*Epigraphia Indica*, Vol. VIII, Part III, No. 15, plate vii.
19 Corpus Inscriptionum Indicarum, Vol. III, No. 18, plate xi. See also Hopkins' *India Old and New*, p. 175.
20. Archæological Survey of India, Annual Reports, 1903-04.
[For this I am indebted to Mr. R. D. Bannerjee.]
21 Rao Sahib H. Krishnashastry's Article on the Fiscal Administration under the Early Colas [R. G. Bhandarkar Commemoration Vol., pp. 227—229.]

their disputes according to the usage of their guild, . . . and the *shrenis* [corporations] were to try cases not tried by the *Kulas* [families], the *Ganas* [communities] were to try cases left by the *shrenis* and the officers were to try cases not decided by the *Ganas*."[22]

Alberuni, writing about 1030 A.D., also speaks of eight guilds of fullers, shoe-makers, jugglers, basket and shield-makers, sailors, fishermen, hunters of wild animals and birds and lastly of weavers.[23]

The literary and epigraphic evidence to which I have referred above will therefore easily prove that there were trade guilds in different parts of India throughout the Hindu period, but the nature and organisation of these guilds are imperfectly known to us. It is probable that their constitution was similar in many ways to that of a political and religious *samgha.* In a peculiarly conservative country like India, where institutions change their character very slowly, it will not be also a bold theory to suggest that the organisation of these guilds was much the same as that of their modern Hindu successors in places imperfectly touched by European influence.

The history of Indian guilds during the Muhammadan period is difficult to trace as the materials at our disposal are scanty. But the Muhammadan conquest was so slow and gradual that its effect on the life and thought of the people was far less revolutionary than that of the British conquest and it may safely be laid down that most of the guilds of the Hindu period continued to flourish during the Muhammadan period. Some of the Muhammadan Emperors were great patrons of handicrafts, and craft-guilds continued to flourish under their patronage. The Muhammadans also introduced many new art industries into India, which still remain in the hands of the members of this creed. Many of the Muslim artisans formed guilds of their own on the model of the Hindu guilds.

The first literary evidence of the existence of Hindu guilds during the Muhammadan period is in the *Vivada-Ratnakara*, a

22 Prof. Benoy Kumar Sarkar's translation of the *Sukraniti* Ch. IV., Sec. V, pp. 184-85. See also S.B.E.S., Vol. XXXIII, *Brihaspati*, I, 28. 29, 30.

23 *Alberuni's* India [Sachau's Translation]. Vol. I, Ch. 9.

legal treatise written at the beginning of the 14th century. From the *Ain-i-Akbari*, our main source of information regarding the economic history of India during the 16th century, we learn that the Mughal Emperors maintained in their palaces skilled workmen from every part of the country.[24] In the following passage of *Ain-i-Akbari*, there is a distinct reference to guilds—"of every guild of artificers, he (the *Kotwal* or City Police Officer) should name one as guild-master and another as broker, by whose intelligence the business of sale and purchase shall be conducted. From these also he should require frequent reports." [25] This proves that there were guilds in the important towns in Akbar's days.

Traces of the guild system in Delhi during the 17th century may be gathered from the following description in Bernier's Travels. "Large halls are seen in many places, calleld *Kar-khanas* or workshops for the artisans. In one hall embroiderers are busily engaged, superintended by a master. In another you see the goldsmiths, in a third painters, in a fourth varnishers in lacquer work; in a fifth joiners, turners, tailors and shoe-makers; in a sixth manufacturers of silk brocade and . . . fine muslins . . . . The artisans repair every morning to their respective *Kar-khanas*, where they remain employed the whole day; and in the evening return to their homes. In this quiet and regular manner their time glides away, no one aspiring after any improvement in the condition of life wherein he happens to be born. The embroiderer brings up his son as an embroiderer, the son of a goldsmith becomes a goldsmith. . . . . No one marries but in his own trade or profession; and this custom is observed almost as rigidly by the Muhammadans as by the Hindus, to whom it is expressly enjoined by their law."[26] The latter part of this description shows how the

24 *Ain*. Blochmann and Jarret's Edition, Vol. I, Pp. 87-88. See also Pp. 91-92 for Akbar's encouragement of the manufacture of shawls, and p. 107 for his patronage of the art of painting.

25 *Ain*. Vol. II, p. 42.

26 Bernier's Travels by Constable and Smith, p. 259.

contagion of caste spread even among the Muslim guilds, which became exclusive bodies like the Hindu caste guilds.

But from Bernier's Travels, it appears also that the vigorous existence of a real guild in Delhi in Aurangzib's days was extremely difficult as the handicraftsmen were ill-treated by the nobles, who sometimes gave too low a price for their wares, and this was the reason why good handicraftsmen could rarely be found in Delhi in those days.[27] For an account of trade guilds during the Mughal period, we must go to other Indian towns most of which "had their guilds of workmen, who lived together in the same ward (called *mahalla* in North India and *pura* in the South), which was often walled off from the rest of the town. Each guild had its special religious processions, festivals, dead saints, and mosques (with schools attached). The guild, by deducting a certain percentage of sales, raised money for communal purposes, such as trade dinners, relief of poor brethren and the building of mosques, besides doing the ordinary duties of a trades' union, *viz.*, (*a*) putting down unfair competition among the members, and (*b*) preventing deterioration of the standard of workmanship or materials."[28]

The history of Indian guilds during the British period is mainly a history of their gradual decline. The chief causes of the decline are the rise of the modern class of merchants and manufacturers, improvements in communication and the rapid increase of machine-made imports into India. The spread of individualism and "modern ideas of personal selfishness," the gradual denationalisation of the Indians and their distaste for Indian handicrafts are also responsible for the decay of Indian guilds. But though "the old order changeth," the nature and organisation of these guilds are worth studying.

In mediæval Europe, there were both merchant and craft guilds. In India also we find these two classes of guilds. Mr. Lely writes that "an association among the higher classes is termed in the

27 Bernier, Pp. 254—256.
28 Sarkar—*Economics of British India,* 4th edition, p. 85.

vernacular, a *mahajan*," and among the lower classes, especially if it is co-extensive with caste, a *panchayat*.[29] But generally a merchant guild is apt to be called a *mahajan* and a craft guild, whether it is conterminous with a particular caste or not, a *Panch* or a *Panchayat*.

One marked point of difference between Indian guilds and similar institutions in Europe is that in India the craft guild did not come into existence after a bitter struggle with the merchant guild. In this respect the history of Indian guilds is similar to that of English guilds. Both classes of guilds have been found to exist in the same town in India, the merchant guild, on account of its superior position and influence, exercising some control over the craft guild.[30]

It appears also that craft guilds arose in India before the formation of merchant guilds. In the *Jatakas*, we find mention of the craft guilds only, but of no merchant guild except a passing reference in the *Nigrodha Jataka* mentioned before. Another peculiar characteristic of Indian guilds is that they are sometimes pure and simple caste guilds and thus form a lower type of organisation than European guilds. But guilds with men of different castes as members are also found in India.[31] Generally, however, specially in small towns, a particular caste is conterminous with a particular trade and caste organisations take the place of trade guilds. Thus in the town of Patan in Gujrat, there is at present no craft guild, in the strict sense of the term, but merely some caste organisations. These, however, have some of the characteristics of guilds. They put down unfair competition among different members of the same caste.

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29 *Bombay Gazetteer,* Vol. IV (Ahmedabad)—article on Trade Guilds by Mr. F. P. Lely, p. 106.

See also Hopkins' *India Old and New*, p. 181.

30 In the *Bombay Gazetteer*, Vol. VII (Baroda), p. 161, we find that "the authority of a *Mahajan* extends over all trade guilds." There have been cases when a disaffected member appealed against his own guild to the *Mahajan* and its decision became law both to him and to his guild.

In Broach, the *Mahajan* has been the ordinary referee in disputes among the "Lesser Arts." *Bombay Gazetteer*, Vol. II, p. 441—443.

31 *Bombay Gazetteer,* Vol. IV, p. 107.

"Carpenters and masons have strict prohibitions about the interference with hereditary customers. A craftsman belonging to these castes cannot go for work to a customer who may belong to another member of his caste." But a person is generally allowed to follow a craft different from that of his own caste,—he has to pay an admission fee only. With the exception of certain traditional rules, these castes organisations do not control their crafts through any industrial regulation. But all craftsmen observe certain common holidays, the non-observance of which is punishable.[32]

The organisation and function of the Indian guilds are in many respects similar to those of European guilds. Each guild has its own chief or president, but there is no uniformity with regard to the name of the president in different guilds. In the Bombay Presidency, the head of a craft guild is generally called a *Patel*, but in Khandesh, the president of the caste organisation, which takes the place of the craft guild, is called *Chaudhuri Mahajan*.[33] The leader of a *mahajan* in the Bombay Presidency is called a *Seth*, but there are generally two *seths* or aldermen in every *mahajan*. The president of a guild in Madura in Southern India is known as *Nattanmai*.[34]

The powers and privileges of the president also vary in different guilds. In the Bombay Presidency, the post of the president is generally held by hereditary right and he exercises his authority with the assistance of an "inner cabinet" consisting of influential members of the guild. But the custom of hereditary succession is not generally followed. When the regular heir of a president "is considered unworthy," the office is sometimes transferred to some other member of his family or of a different family. The post of the headman is in some cases elective. Thus, as a merchant of Benares writes to me, the headman of the guild of silk-embroidery workers there is elected. But "he is not elected in the sense of the modern term. . . . Generally some senior members name one of them

32 For an account of the guilds of Patan, I am indebted to Mr. Ramlal Chunilal Modi.
33 *Bombay Gazetteer*, Vol. XII, p. 237.
34 For an account of the guilds of Madura, I am indebted to Profs. A. J. Saunders and Ramaswami Iyengar of the American College, Madura.

for the post only once and this post he holds for life. His heirs may be named for the post if they are ripe in years and experience, but their election is not obligatory." The president or *Nattanmai* of the *Viswakarma* guild of Madura is also "elected from time to time or as often as the General Assembly desires."[35]

The authority of the president is also declining. This is due to the same causes which have reduced the influence of the guilds themselves. Where the guild is merely a caste guild, the president still wields considerable power, but he exercises his power more as the headman of a caste than as the leader of an industrial organisation. In the *Viswakarma* guild of Madura, the president does not exercise considerable power. There the General Assembly "elects a Committee whose voice on all matters is final. The president merely carries out the orders of the Committee."[36]

In the wealthiest guilds, there is a salaried clerk or *gumasta*. It is his business to call the meetings, to collect monies due, to keep the accounts, to be on the look-out for, and report to the aldermen, all irregularities such as the non-observance by any member of an appointed holiday and generally to execute any business that may be given on behalf of the Corporation."[37]

In Baroda, "every *mahajan* has a *kotwal*, whose duty it is to collect the members of the *mahajan*, when they are wanted. He receives no regular pay but is entitled to certain privileges or gifts." [37] Where there is no clerk or other officer, the president does the clerical work himself.

The guilds do not at present try to restrict the number of members through a strict system of apprenticeship. Though a system of apprenticeship is still in vogue, "it is not the practice to execute indentures of apprenticeship." Generally trade descends from father to son and thus questions relating to apprenticeship do not arise. Even if a boy learns some other craft or calling, he has

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35 Reports on the guilds of Madura kindly sent to me by Profs. Saunders and Iyengar.

36 *Bombay Gazetteer*, Vol. IV, p. 108.

37 *Bombay Gazetteer*, Vol. VII, p. 160.

not to pay any premium except occasional presents to his master.[38] In such cases the apprentice in some places receives from his master food and lodging only. In other places he receives a small salary.

There is also no fixed period of apprenticeship. The apprentice remains with his master so long as is necessary for learning the trade or craft, and naturally this period varies in different trades. Thus in the *Saurasthra Sava* of Madura apprentices in the weaving industry usually serve for two years, but in the *Viswakarma* guild of the same city, the apprentices remain with the master for nearly eight years.[39]

Every man belonging to a particular craft or trade is thus allowed to be a member, but men having different religions are seldom members of the same guild.[40] The greater security given by law to individual action, and the fear of external opposition have now compelled many guilds to open their doors to all those who have served a period of apprenticeship and who agree to obey the rules and pay the customary contributions.

Where the guild is a caste guild the question of membership becomes simply a question of caste and if the applicant can satisfy the guild on that point, he is allowed to be a member. When membership descends to a son from his father, no entrance fee is charged. But a new-comer, or a man whose father followed a different craft or calling, has in some cases to pay an entrance fee for becoming a member with all the rights and privileges of the guild.

For enjoying the privileges of the guild, the members have to contribute money in various ways. So far as I know the members of no guild contribute any regular monthly subscription. The different ways in which the communal funds are raised in various guilds

38 *Bombay Gazetteer*, Vol IV, p. 109.

39 Reports of Profs. Saunder and Iyengar.

40 In the Bombay Presidency, a Muhammadan is not allowed to be the member of a Hindu guild. "For instance a Musalman carpenter must conform to the rules of the carpenters' guild, which has only Hindu members; but he has neither voice nor seat in the guild." *Bombay Gazetteer*, Vol. VII, p. 160. But the so-called guild of the goldsmiths of the Punjab (now extinct) had both Hindu and Muhammadan members.- Report on Industrial Education, Part I, Appendix VI (1903)

may thus be summed up. "Except occasional fines, the poorer guilds have few sources of revenue. The wealthier bodies . . . . draw considerable incomes: (1) from a small tax on the import and export of the principal articles of trade ; (2) from death-bed donations or donations by heirs ; (3) from fines and entrance fees ; (4) from the auction sale of the right to open the shop . . . on holidays ; (5) from land and sometimes from house property."[41] But income from fines does not now constitute an important portion of the guild fund. The fines received by the *Saurasthra Sava* of Madura in 1917 amounted to Rs. 7 only, but the total income of the guild in the same year was Rs. 1,14,865. The artisans' guilds of Madura derive their income mainly from marriage and funeral ceremonies. The guild of Benares raises its funds by means of yearly subscription lists called *chittas.*

Mr. Lely in his account of Ahmedabad guilds, writes that "the artisan associations have as a rule no fund for current expenses, nor do they contribute to any charitable or religious objects."[42] But this remark does not apply to all artisans' guilds, though it must be admitted that these associations having few sources of revenue spend the greater part of their small income on guild feasts. The funds of the wealthier guilds are spent in carrying out their multifarious functions. "In India everything is so mixed up with religion or caste that it is not easy to draw a line between the secular and sacred functions" of a guild. In the good old days, the Indian guilds exercised their trade functions as rigorously as the guilds of mediæval Europe. They controlled industry and unfair competition among members by fixing trade holidays and by regulating prices, wages, hours of labour, and the amount of work to be done by each member.

Few guilds, however, now exercise any trade function other than fixing trade holidays. In large towns with mills and factories, which are connected with other parts of the country by

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41 *Bombay Gazetteer,* Vol IV, p. 111.
42 *Bombay Gazetteer,* Vol. IV, p. 112.

railways, it is difficult for local guilds to fix prices and wages. But if the pressure of outside competition is not keen, or is not possible, guilds, especially artisans' guilds, still exercise their former trade functions to some extent. They sometimes fix minimum wages, and act as a trade union of labourers. The most useful trade functions of the guilds at the present time is the arbitration of trade disputes among their members. But the remark of the Benares merchant to whom I have referred above that "this practice is gradually on the wane and everyone is becoming fond of resorting to law courts" may be fairly generalised.

The guilds now devote their attention mainly to their social and religious functions. The guilds in Western India which exist chiefly among the Vaishnavas and the Jainas spend their funds mainly on the maintenance of animal homes and in other charities, and "in part also on the temples of the *Vallavacharyya* sect of Vaishnavas" and on dinners to the members. The *Saurasthra Sava* of Madura, which is a modernised form of guild has a wider field of activity. It has settled numerous caste questions and repaired the local temple. It maintains a school. In short, it "protects all the interests of the Saurasthras, such as religious, social, political or trade."[43]

But the power of the Indian guilds is fast declining, a few guilds, recently formed, being the solitary exceptions. Some people think that this is a matter for congratulation. Mr. Lely condemns the guild system for restricting the scope of individual enterprise. "The clever and the stupid, the hard-worker and the idler," he remarks, "have been kept up at the same level by an indolent and bigoted communism. . . . all efforts at improvements have been suppressed and the accumulation of individual wealth impeded."[44] But, so far as I know, the guilds do not discourage the introduction

43 Reports by Profs. Saunders and Iyengar.

44 *Bombay Gazetteer*, Vol. IV, p. 11.

of new processes of work or invention, if it does not cause unemployment among the members. It is true that many abuses crept into the guild system in its later stages. But the guilds were originally useful organisations, which protected the interests, not only of their own members but also of the general public. Moreover, they have maintained even up to this day the traditional excellence of the old handicrafts of India.

But as has been already mentioned, the guild system is incompatible with modern industrialism. Thus, with the advent of the modern period in Japan after the Revolution of 1867, the guild system was finally swept away.[45] Marco Polo noted the existence of guilds in China in his celebrated Travels,[46] and "China is [still] the land of guilds, societies and trade unions."[47] But there are unmistakable signs that with the growth of industrialism in China, they will soon cease to exist. In India also they are bound to disappear in the near future. Gujrat and Madura[48] in Southern India are still the centres of guild activity, but even there the guilds have lost much of their old strength.

The United Provinces have been a home of many flourishing crafts, but traces of guilds that were formed there in the past, are now almost entirely lost. There is a loose industrial organisation called *panchayat* among the silk-embroiderers of Benares.[49] In the 5th volume of the N.-W. P. *Gazetteer,* we come across trade *panchayats* among the low class Hindus of the Budaun district of the United Provinces. Such a *panchayat* "tries and punishes breaches of customs and trade offences and consists of all the convenable members of the caste or trade fraternity to which the culprit belongs. The penalty is usually a fine."[50] A *panchayat* of sugar refiners is held annually at Haldaur, in the Bijnor district of the

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45 Fukuda : Social and Economic Development in Japan.
46 Yule's Marco Polo (1903), Vol. II., p. 186.
47 China as it really is, pp. 148—150.
48 Report on Industrial Education, Part II, p. 162 (1903).
49 The Benares District *Gazetteer* does not even mention this guild. For an account of its present condition, I am indebted to a merchant of Benares.
50 N.-W. P. *Gazetteer,* Vol. V, p. 50.

United Provinces, " which settles the price to be paid to the cultivators for raw sugar and the rate so fixed is accepted as a standard over the whole district."[51] These *panchayats* cannot be called " guilds " in the strict sense of the term, but they are the only traces of the guild system surviving in the United Provinces.

In the Punjab, the guild system was never very strong. As late as 1902, there were, however, four important guilds of silk-weavers, metal-workers, utensil-sellers and iron-mongers in Lahore.[52] At that time the silk-weavers' guild fixed trade holidays, and regulated the rate of wages " which the weavers would take from the merchants, who used to supply them with thread and after finish purchased silk cloths from them. But at present . . . they have hardly any organisation." They, however, still try to maintain the good quality of their wares. " If any one mixes cotton with silk, he is socially censured." But " they no longer regulate wages," or follow any rule of apprenticeship. The utensil-sellers, too, have now no guild. They have, of course, a *panchayat*, but its function is " mainly confined to the settlement of social disputes." Guilds have therefore practically disappeared from the Punjab.[53]

In Bengal, too, there is at present no trace of the guild system. It appears to me that Bengal has never been a guild-ridden province, and that for the following reasons. In Bengal, agriculture has not been carried on on a communal basis. Here land has been subject to alluvium and diluvium. There have been camps, no doubt, but no city, except the capital and one or two important places of pilgrimage. But " handicraft," as Bucher aptly observes, " is a phenomenon peculiar to the town."[54] Weaving has been the special industry of Bengal, but it has always been a domestic industry and has never been organised on a communal basis. The *Dayabhaga* law of inheritance, prevalent in Bengal, also points to the individualistic temperament of its people.—J. C. SINHA.

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51 *Imperial Gazetteer*, Vol. XIII, p. 10

52 Report on Industrial Education (1903) Part I, Appendix VI.

53 For this account of the Punjab guilds, I must thank my friend Prof. R. M. Chowdhuri, of the D. A. V. College, Lahore.

54 Bucher—Industrial Evolution, p. 171.

THE ABUSE OF RURAL CREDIT AND THE PUNJAB REMEDY.

"INABILITY to plan for the future," says Professor Carver, "is a characteristic of all undeveloped people. . . . In turbulent times, disturbed by frequent wars, invasions, plundering expeditions or general lawlessness; it is notorious that industry is backward and accumulations are meagre. Men are not only uncertain as to the reward of forethought, but they are frequently afraid to increase their accumulations lest they attract the notice of plunderers. . . . Uncertainty results also from bad Government. Under a whimsical and despotic Government the citizen never knows what the tax gatherer may demand of him. In other words, he never knows when he may be plundered in the name of the law and under the form of taxation." In the circumstances described thrift cannot flourish, security for loans is difficult to find, and the growth of capital is retarded. The requisite bases for credit are wanting and rural indebtedness is conspicuously absent. The quotation aptly describes conditions in the Punjab prior to 1849, and much time, ink and paper would have been saved had the critics of Government studied these conditions before launching their attacks upon the land revenue policy as the cause of all agrarian troubles. Indebtedness has undoubtedly increased under British rule and this increase is in part due to the Acts of the British administration, but it does not follow that blame can justly be imputed. The introduction and maintenance of law and order, the levy of an equitable system of taxation, the recognition of private rights in property and the security accorded to every one in the pursuit of his legitimate avocations served to establish the

essentials of credit and credit, as we all know, is double-edged; it may build up and it may destroy.

For several generations, the Punjab was the scene of successive invasions leaving in their train fleeting empires and short lived principalities. The rise of the Sikh power and its consolidation under Maharajah Ranjit Singh did little to improve economic conditions. The civil administration of this time has been described by Sir Lepel Griffin as "the simple process of squeezing out of the unhappy peasant every rupee that he could be made to disgorge; the limit of oppression being only marked by the fear of his revolt or the abandonment of his land through discouragement and despair. The Sikh farmer of revenue did not wish to kill the goose that laid the golden eggs but he plucked its feathers as closely as he dared." The State frequently took as much as one half the gross produce besides a multitude of cesses and any accumulation of arrears was apt to be met by the despatch of a regiment to collect it. In the Punjab, land was, and still is, held by village communities paying jointly the demand of the State. There was ample land but there were not always enough cultivators to join in meeting the common burden. The State, or the revenue farmer beneath it, took all there was to be taken and the cultivator was left with no surplus. Thus there was no room for an idle landlord between the cultivator and the State; such a landlord would not have been able to exact more than the State already did and so would have been unable to secure any owner's profits. In these circumstances land had little value; transfers were practically unknown. There was nothing to be gained from buying land, nothing to be gained from taking it in payment of debt. It yielded more responsibilities than profits and offered no security for credit.

Between the death of Ranjit Singh in 1839 and the annexation of the province ten years later, the civil administration practically disappeared amidst the internal dissensions and rebellions that ended with the second Sikh war. A period of great administrative activity then ensued but progress was interrupted by the mutiny of 1857-58, and in the next decade the province passed through a cycle

of bad seasons commencing with the famine of 1860-61 and ending with that of 1869. The officers for the new province were largely drawn from Agra and Oudh and brought with them ideas of a revenue demand which were soon found to be ill adapted to a tract with a rainfall far more precarious than that of the country from which they originated. The summary settlements almost everywhere reduced the demand of the Sikhs but it would seem that cash payment and rigidity of collection largely set off the advantage to the cultivator. Subsequent settlements further reduced the demand and allowed to the owner a profit as such over and above the costs of cultivation. Previously the proprietary body was the body responsible for the revenue. If they could persuade others to share in this responsibility, the advantage gained was a wider distribution of the burden; the tenants helped to pay the revenue, they did not pay any rent to the owners in addition. The immediate effects of annexation were the maintenance of law and order, security of tenure, a moderate fixed demand, and the encouragement of trade. The province advanced rapidly in prosperity and the agriculturist class found themselves in possession of a valuable property such as they had never known before. The land now yielded a profit in excess of the cultivator's immediate requirements and this margin of produce could obviously form the basis of credit. It was possible to find a tenant who would pay a rent higher than the Government revenue. A difference between rent and revenue began to appear and owner's profits emerged. The land revenue being fixed for a period of years, expansion of cultivation was encouraged so that, for instance in the five years between 1868-69 and 1873-74, the cultivated area increased from 202 lakhs of acres to 226 lakhs and the average revenue on this declined from Rs. 1-1-3 to 15 as. 7 pies. At the same time as the cultivator was beginning to save a profit out of which he could repay a debt the newly established regular courts not only aided the lender in recovering his dues but introduced the novel principle that, whether the land was specifically pledged as security or not, it could be seized

in satisfaction of a decree. Prior to annexation the system of joint-ownership was a powerful factor preventing transfer to outsiders and the alienation of ancestral property was so opposed to the feelings of the people that it may safely be said that such alienations, though not unknown, were outside the ordinary current of life. The forced sale of hereditary land for debt was, it would seem, not recognised under native rule. The whole spirit of Hindu law is opposed to the control of the individual over ancestral property and the Punjab Mahomedans generally follow a tribal law derived from their Hindu ancestors. Thus the advent of British rule was followed by the introduction of two novel features. The land became a valuable property yielding a surplus of profit instead of a burden entailing the satisfaction of the State demand; and it further became an ultimate security for loans. Enquiry in 1873-74 showed that the sale of land in execution of decrees of courts was almost unknown in the Punjab and it has never attained very serious proportions. Throughout, the money-lender has conspired, not for the land, but for the produce. He was intelligent enough to realise that the commercial value of the land was derived from what it yielded and as soon as peace and security brought good markets within easy reach he set himself to get possession of the grain at the lowest possible price. The simplest method was to get control over the cultivator and shortly after the mutiny the village usurers began to use their superior intelligence and every advantage which the new laws and new courts placed at their disposal to entangle the Punjab peasants in a mesh from which they would be unable to escape. It is customary to blame the cultivator for improvidence but it is not explained why this characteristic developed after 1849 and has been practically confined to owners, especially to owners of the best lands. The charge of extravagance or marriage expenses was reduced to relatively unimportant limits by the Deccan Ryots' Commission, and Mr. Thorburn, Mr. Keatinge, and Mr. Datta have corroborated their finding. The active factor in peasant indebtedness has been the desire of the village usurer to get hold of the produce. Prior to

1849 there was little or no surplus produce to get hold of; but the British administrators reduced the revenue from the whole of the surplus to considerably less than half and so left the cultivators with a margin which he could dispose of. The existence of this margin gave his land a saleable value. The law not only recognised his (unknown and hitherto useless) right to sell but held his land as ultimate security for his debts. Prior to 1849, a mortgage could have been of little value; such a charge requires a settled tenure. With the advent of British rule the Bengal form of mortgage appeared and by 1874 there were 13 lakhs acres encumbered, of which 10 lakhs had come under mortgage within the previous six years, so that there could have been a very small area so encumbered on annexation. [It must be remembered that the Cis-Sutlej territory was already British before the annexation of the Trans-Sutlej Punjab in 1849, and the Delhi territory was transferred to the Punjab from the United Provinces after the mutiny.]

Enquiry in 1871 showed that in one district 66·5 per cent. of the mortgages were made to money-lenders, but only 37 per cent. of the sales. As the area sold was generally less than half of that mortgaged, it seems clear that the money-lenders were anxious to secure the produce of the land without assuming the responsibilities of ownership. As was pointed out in 1882 as purchaser of the land he got only the land but as mortgagee he got the land and a hard working submissive owner-tenant as well. Further it is repeatedly a matter of comment that the mortgages were mostly taking place in districts known to be prosperous and that the lands so encumbered were the most fertile while the sales were in the precarious districts. The writers of the early reports found consolation in the comment that the agriculturists only sold their cheaper lands and were able to retain a lien on the better fields; but it was officially admitted that "once in possession the mortgagee adds loan to loan and interest to interest until the mortgagor, or his descendant, becomes involved beyond the power of extrication by ordinary means and the creditor becomes *de facto*, if not in name, proprietor of the estate." The

fact was that the Punjab peasant was being confronted with a new form of credit and like his fellow in other countries he was in danger of being ruined by it. Official enquiries showed that 94 per cent. of the money raised was for unproductive expenditure; "the people," the Report of 1871 says, "do not as yet understand the advantage of constructing reproductive works with borrowed money. They mortgage their land in most cases merely to raise money for immediate necessities or to stave off importunate demands," and in the Report of 1874 we read, "the facility of raising loans on mortgage is increasing." At this time it was considered that legislative interference to prevent reckless alienations would be opposed to economic principles, but no authority was given for the suggestion that economists viewed with unconcern the expropriation of peasant proprietors in favour of capitalist landlords cultivating through tenants. Credit is notoriously double-edged and the story of the Punjab fully corroborates Professor Gide's comments (Political Economy, p. 394). "It has often been said that credit holds up the landowner as the rope holds up the hanged man. . . . It is only to usurers that the loan on mortgage is a profitable business. . . . In those countries where it is practised on an ignorant and inprovident population . . . . in Algeria, the countries of the Danube, and in Russia . . . it does incalculable harm"; and we may agree with him that if a calculation could be made of the number of landowners ruined as compared with the number enriched by it, its abolition would be called for; and further (p. 397) that "the more easy mortgage credit is made the more dangerous will it become and the more surely will the small landowner be delivered into the hands of the usurer." Unfortunately the Punjab cultivators had not then fully realised the truth of the warning of Schulze-Delitzsch to have nothing to do with the man who could offer the deadly gift of easy credit. Mr. Keatinge tells practically the same tale of the Deccan cultivator (Rural Economy in the Bombay Deccan, p. 84): "the cultivator fell a victim to the insidious ease with which he could raise money on

curity of his land and failed to foresee the inevitable day of ment." Similarly Mr. Datta in his Report on the rise of prices 160) says "with increased wealth in the country there are now more persons with money to lend than before and they compete with one another in offering loans to the cultivators at lower rates of interest. . . . Land has considerably risen in value . . . . and now forms ample security for a much larger loan . . . . and this increased credit the ryot is far too prone to utilise for foolish and improvident purposes. The temptation is too strong for him to resist borrowing, the dangers of which are unrealised. . . . This applies specially to the case of cultivators with small holdings." The Deccan Ryots' Commission in 1875 reported that the much talked of improvidence of the ryots "consists rather in the short-sighted imprudence of an ignorant class ready to relieve present necessity by discounting future income on any terms and unable to realise the consequences of obligations foolishly contracted, than in an extravagant expenditure or misapplication of income. . . . The facilties for the recovery of debt offered by our Civil Courts had called into existence an inferior class of money-lenders dealing at exorbitant rates of interest with the lower strata of the agricultural poor"; . . . "another cause of the increase of indebtedness is the facility with which the money lending class can command the assistance of the law in the recovery of debt, and consequent upon that facility, an expansion of the ryots credit, inducing numbers of small capitalists to compete for investments in loans." "The Famine Commission Report of 1880 mentions that the classes which have the best security to offer are the most eligible customers of the money lenders," and further that "a rigid, elaborate legal system has too often proved . . . an additional cause of ruin to the impoverished agriculturist." The Famine Commission of 1901 similarly reported of Bombay that "the unrestricted right of the cultivators to transfer their holdings was an accentuating cause of indebtedness and further that it invariably happens that when an ignorant and improvident peasantry can

dispose, without restriction, of valuable rights in land, the cultivators sink deeper into debt and their property begins to pass out of their hands." The initial cause of indebtedness was thus the action of the British Government on annexation in conferring clear titles to land and in so reducing the revenue demand as to leave a considerable margin of profit to the cultivators. As Mr. Thorburn says (Report on Peasant Indebtedness, 1896, p. 74), "the agriculturists naturally made use of their expanding credit." The rise in the value of land and of agricultural produce attracted the attention of the regular money-lenders, and the high remuneration from their business led to the petty shopkeepers following suit with money borrowed from the big Sahukars. Whatever the needs of the people might be there was no lack of lenders to accommodate them. The growing wealth of the province only increased the amount of available capital and in the absence of industrial enterprise the land was almost the only safe investment. The word investment is used advisedly. It seems abundantly clear that more money lending alone would not have accounted for the heavy sum of indebtedness. The fact was that the lenders did not want their money back so much as they desired to retain a permanent lien on the produce. It was the crop and not the principal sum which they wished to see paid into their coffers. The usurer invested his money in the hope of a recurring annual return and seldom pressed for redemption of the mortgage.

As to the reasons which induced the cultivator to borrow, the demand for land revenue by a fixed date would seem to have been one and the need to replace cattle lost by disease was probably another. Mr. Thorburn found that 12 per cent. of the debt was borrowed to pay land revenue, and 11 per cent. to purchase cattle. In the last report on Co-operative Societies in the Punjab, it is shown that 12·5 per cent. of the money advanced is for the former object and 17·5 for the latter. The close approximation of the results of two enquiries made 21 years apart is certainly striking.

These two causes were mentioned and discussed at a very early stage in the revenue history of the Punjab. The administration has

always boasted of the ease with which the land revenue has been collected. In the Report for 1870-71 the Financial Commissioner protested against the suggestion that transfers of land were due to the revenue demand; he asserted that while in "other parts of India" land was sold for government revenue, "we have never taken such harsh measures in the Punjab." In 1871-72, however, the Lieutenant-Governor was disposed to believe that "in some districts of the Punjab the rigidity of the Government demand may force the people into debt"; but in 1875-76 the view taken was that "the revenue system was sufficiently elastic to afford relief to the people where it may be necessary." From 1882 onwards successive steps have been taken to render the system more elastic and more adaptable to the variations in the harvests. The Government of the Punjab has never evaded the difficulties of this problem. It has clearly stated that "the rigid enforcement of the revenue demand, irrespective of calamities of seasons, is no part of its revenue system"; but it seems to have borrowed from Agra and Oudh, whence many of its officers were obtained, a rather narrower conception of elasticity than was suitable to the new province, and many years elapsed before Collectors were given power to suspend the revenue of their own motion. Even now, as the figures from Co-operative Societies show, there is a great deal of borrowing to pay the revenue. The heaviness of the demand could hardly be a cause for such borrowing, as the province has always been lightly assessed. In 1868-69 the average assessment per cultivated acre was Rs. 1-1-3; ten years later it was only 15 annas 3 pies, 1888-89 it was 15 annas 7 pies, and in 1898-99 it was Rs. 1-2-10, and at present it is Rs. 1-8-6. During these 50 years the irrigated area has increased 144 per cent., while the unirrigated area has remained practically stationery. The revenue averaged about Rs. 1-4-0 per head of population in 1868-69, to-day it is Rs. 2-4-0.

The second cause of indebtedness mentioned is loss of cattle. This is sometimes very heavy indeed. In 1877-78, for instance, there

was truly terrible mortality. Some districts lost half, some two-thirds of their stock. "The loss of cattle during the year," says the Report, "was most disastrous and has made a serious impression on the wealth and comfort of the people." The loss in one district alone would seem to have been nearly one crore of rupees, which was probably more than one-third the sale-value of the whole cultivated land in the district. Obviously such a calamity must have led to extensive borrowing and once in the clutches of the usurer, the peasant seldom gets free. As it was officially admitted that "the loss of agricultural capital annually caused by preventible deaths of cattle is enormous," this may safely be accepted as one of the main reasons for borrowing.

The indebtedness of the Punjab peasantry may thus be ascribed (1) to the sudden enhancement of credit due to new conditions introduced by the British Government, (2) to the abuse of this credit by clever usurers who encouraged borrowing in order to secure control of the produce, (3) to Famines of 1861, 1869, etc., and heavy mortality amongst cattle which drove the cultivators to borrow and so involved them in the money-lender's clutches, (4) to the rigidity of land revenue collection accentuated by the tactics of the usurer who seized the whole produce and so compelled the cultivator to borrow afresh for the State demand and (5) to a system of civil law which was unsuitable inasmuch as it favoured the clever money-lender against the ignorant peasant.

As to the extent of the evil, it is difficult to give accurate figures. From 1866 to 1874 sales averaged about 88,000 acres a year. In the following quinquennial periods, the acres sold averaged 93,000, 160,000, 310,000 and 338,000 acres a year. Mortgages amounted to 143,000 acres a year in the first period, and to 212,000, 296,000, 590,000 and 554,000 acres a year in the succeeding quinquennial periods. These figures give an exaggerated view inasmuch as they refer to the total area. The cultivated area may be roughly calculated at half the above. On the other hand, they minimise the evil, inasmuch as they omit the following consideration. In 1866 the

sale-value was about Rs. 10 per cultivated acre ; in 1893 it was Rs. 59 ; and the consideration for a mortgage rose from about Rs. 10 to Rs. 46 in the same period. Thus between 1870 and 1893 the sale money rose from, roughly, nine lakhs to one crore while the consideration for mortgages similarly rose from nineteen lakhs to 166 lakhs. In 1900-01 436,000 of acres (235,000 cultivated) were sold for 182 lakhs of rupees, and 523,000 acres (376,000 cultivated) were mortgaged for nearly 231 lakhs of rupees.

On the 8th June 1901 the Punjab Alienation of Land Act came into force. It was the result of many years' most careful enquiry and was passed into law amidst gloomy forebodings. The Lieutenant-Governor, Sir Mackworth Young, marshalled the opinions of many eminent revenue officers of the past in support of his own view. He complained that the Act was not due to the initiative of the Punjab Government and indeed went beyond its utmost recommendations and explained that he was refraining from opposition only because " the best experience available " of his own officers was in favour of the measure. All sorts of evil seemed to be impending. The value of land would be depreciated, the provisions of the Act would be disregarded or evaded, the money-lender's trade would become impossible and the borrower would be pinched. In point of fact all these gloomy prognostications proved groundless. The Act was quietly received, apathy was more observable than excitement, no special difficulties were encountered and the new law was soon absorbed into the routine life of the province. Its main provisions are very simple, sale of agricultural land in execution of a decree is forbidden. Sales of their land by members of agricultural tribes to others who are not members of these tribes is similarly forbidden. The Bengal form of mortgage with a conditional sale clause is rendered illegal and even in the case of old mortgages the conditional sale clause becomes inoperative. All mortgages of land by agriculturists are illegal unless such as provide for automatic redemption within a period not exceeding twenty years. To obviate evasion, land may not be leased for a period longer than five years.

The act caused no undue contraction of credit. The average price of land was Rs. 78 per cultivated acre for the five years prior to the passing of the Act, it fell to Rs. 75 for the next five years, rose to Rs. 98 in 1906-07 and has since steadily continued to rise and us it is now well over Rs. 200, confining attention to cultivated area only. The average area sold in the five years preceding the Act was 162,000; for the next five years (1901-02 to 1905-06) it dropped to 135,000; in the next period (1906-07 to 1910-11) it fell further to 121,000. Since then it has risen and for the period 1911-12 to 1915-16 the average area sold was 140,000 acres. This increase is due to large sales of land by Government in the canal colonies and does not indicate that there is any tendency for agriculturists to part more freely with their land. The following figures show that these tribes are now actually regaining land :—

AVERAGE AREA SOLD IN ACRES.

	By Agricultural Tribes.	To Agricultural Tribes.	Gain or Loss.
1902-03 to 1905-06	150,000	149,000	−1,000
1906-07 „ 1910-11	170,000	178,000	+8,000
1911-12 ,, 1915-16	188,000	217,000	+39,000
1916-17	183,000	203,000	+20,000

[The figures relate to the Province as at present constituted. The figures given in the text for the five years prior to the passing of the Act also relate to the area now included in the Punjab.]

The figures for mortgages are also very striking. The average area of cultivated land mortgaged annually during the five years preceding the Act (1896-07 to 1900-01) in the area now included in the Punjab was 339,000 acres. The annual average for the three succeeding quinquennial periods was 180,000, 211,000 and 226,000 acres respectively. But these figures are misleading and the result of the Act is more accurately shown in the following table (the figures of which include both cultivated and uncultivated area) :—

	Area Mortgaged by Agricultural Tribes.	Area Redeemed by Agricultural Tribes.	Area Mortgaged to Agricultural Tribes.
1902-03 to 1905-06	190,000	178,000	162,000
1906-07 „ 1910-11	240,000	296,000	219,000
1911-12 ,, 1915-16	264,000	270,000	238,000
1916-17	246,000	199,000	220,000

sale figures show clearly that agricultural tribes are gaining Rs. edemption and mortgage for more than they are losing by to gage. The average mortgage money per acre has increased from mon 31 per cultivated acre in 1900-01 to Rs. 106 in 1916-17. The tional total cultivated area under usufractuary mortgage is slowly Inclining from 3,287,000 acres in 1901-02 to 3,200,000 in 1916-17 ; the area owned by agricultural tribes and mortgaged must have decreased still more. The percentage of the mortgaged cultivated area to total cultivated area has declined from 12·3 to 11·5 in the period named. The district figures show improvement in the most encumbered tracts and retrogression in some of those previously more free. Thus :—

District.	Percentage of total cultivated area mortgaged. 1900-01	1916-17.
Gurdaspur ...	25·5	20·9
Sialkot ...	25·1	23·5
Mooltan ...	17·7	10·1
Amritsar ...	17·0	16·3
Gujrat ...	16·1	12·4
Kangre ...	16·2	12·9
Rohtak ...	10	12·3
Gujranwala	10	7·1
Jhelum ...	9	7·7
Karnal ...	7	8·4
Hissar ...	5·6	8
Jhang ...	4·2	10·4

The explanation of this curious variation appears to be that in the early days of British rule, as already mentioned, the money-lender was most active in the more prosperous districts ; prosperity was the source of temptation. With the passing of the Land Alienation Act this same prosperity has enabled the agricultural tribes to retrieve their former position. In the poorer tracts the land was of little value, crops were precarious and hence the money-lender was less active until the all round rise of prices gave him security. Rohtak, Hissar and Karnal belonged to the old Delhi division where

the conditional sale mortgage was most common and the rise may be due to the conversion of these into usufructuary mortgages under the Act.

The objection that the Act discriminates unduly against Hindus is easily met by the facts, first, that exactly one-third of the agriculturists protected are Hindus and, second, that where the non-agricultural Hindus have acquired land they have, as a general rule, signally failed to devote to its exploitation the capital, intelligence and enterprise at their command. With some exceptions they have become rent receivers pure and simple.

To sum up, we may quote the words of the Lieutenant-Governor that the Act "commands the confidence and approval of the peasant population and has largely achieved its object. In almost every village the Akt Intikalat is spoken of as the Magna Charta of the Zemindar." But it must be remembered that the measure was directed against and has not remedied the abuse of rural credit; it aimed at removing one important result of this abuse. Rural indebtedness is probably heavier than before and the unscrupulous usurer who lends for extravagance continues to receive from the courts the same help and sympathy which is the due of the city banker with a long reputation for sound and honest business who lends only on good security for a good productive purpose. The time appears to be ripe for a measure imposing on the civil courts the exercise of a proper economic function. Until all concerned are fully impressed with the need for building up a sound system of credit, the present abuses will continue; trade and commerce will languish; industries will not flourish; prices will remain unduly high and the preventible wastage will continue to drain away the capital of the province. To illustrate this wastage we may mention that in the last ten years the civil courts of the province have been called upon to realise money decrees to the total value of eighteen crores of rupees and have actually realised less than five crores.

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THE FUTURE OF HYDRO-ELECTRIC POWER IN INDIA.

1. Sources of Power.

The chief sources of power in the world (exclusive of animal power) are fuel, water and wind. The sun is of course the ultimate source in all four cases, and on an experimental scale solar heat has been directly utilized for the generation of steam. More usually, however, either the fuel, which solar action caused to grow in primeval forests, or the water, which is daily raised by evaporation to fall again by gravitation, or the wind which results from variations of temperature, is harnessed for the needs of mankind. Wind power and sun power are too precarious and variable to be used on any but a small scale, and water power does not always exist where it is wanted. Consequently the world's industrial development depended, until recently, upon fuel through the agency of the steam engine. Latterly the steam turbine and the oil engine and gas engine have taken up their share of the burden, while simultaneously the advances in electrical transmission have enabled progressive countries to develop their water power. Fuel supplies are not unlimited, and unless the factory is brought to the coal or oil field the fuel must be carried to the factory—or at least within reach of transmission of power. Unless the facilities for such carriage are exceptionally good it is found more economical to transmit the power than to carry the fuel. Mechanical transmission is practically limited to a few miles, and although there are considerable possibilities in the intermediate device of converting fuel into gas for pipe transmission it is established that for long distances electricity is the only method of transmitting power. There are losses in any case,

whether in the form of actual power wasted in heat, or of annual capital charges, or of freight.

One development of water power, dear to the inventor and the patent agent and cordially disliked by every patent office in the world, is tidal power. It is perfectly true that enormous stores of energy are unutilized in the tides, but, apart from their periodic nature, their development would in most cases cost far more than would suffice to provide the equivalent power by other means. Leaving this branch of the subject to the cranks there are three, and only three, clearly defined cases in which water power can be developed on sound lines.

2. Basis of Water Power and Conditions of Development.

It is necessary here to explain that the power obtainable in any case is proportional to the product of the *weight of water used* and the *height through which it falls* in the pipes leading to the turbine wheels. Thus 1,000 lbs. of water flowing under a head or height of 100 feet generates the same total amount of power as 100 lbs. of water flowing under a head of 1,000 feet or 10,000 lbs. under 10 feet. In each case, the total is 100,000 foot-pounds ; it is immaterial whether it flows quickly or slowly, as this simply affects the rate and not the total amount. In any of these cases if the assumed weight of water passed through the turbines in one minute the rate at which power would be developed during that minute (or indefinitely, if the flow continued at the same rate) would theoretically be 100,000 foot-pounds per minute or 3a H.-P., of which about 85 to 90 per cent. would be available as mechanical power and 75 to 85 per cent. as electrical power. It will thereof be seen that in order to get power on a large scale it is necessary to find :

(*a*) A small flow of water available with a very large head, which may be anything up to about 5,000 feet, such as may be found in mountainous districts and hill streams at high altitudes.

(*b*) A very large flow of water with a comparatively small head, such as may be found on a canal fall or in a river with a moderate bed slope or a waterfall. (A combination of a large or moderate

flow as in (*b*) with a high or moderate head as in (*a*) is an ideal combination but is not a distinct case.)

(*c*) The third possibility is where a high head exists coupled with very large monsoon rainfall and ground capable of storing it in large reservoirs. In this case there may be practically no normal flow ; the water stored in the short rainy season is utilized throughout the year, as in the Tata schemes in Bombay.

It may be stated definitely that the slow moving rivers of the plains of India, with a fall of a few inches or a few feet per mile, are absolutely valueless as sources of water power. Although in small streams of this nature undershot waterwheels are often used to drive small mills the problem becomes impracticable on a large scale, and may be relegated to the category of tidal power and the like. A definite fall (whether a natural fall or one developed by the engineer) is essential, and where the slope of the ground is negligible and the seasonal rise and fall of the water is great no practicable fall can be obtained. The common misconception that a natural waterfall is required is of course unfounded.

3. Steam *vs.* Water; Capital Charges *vs.* Fuel.

In all these cases it is obvious that large capital expenditure is necessary on the hydraulic development ; furthermore as water power must be developed where it is found a long transmission line is often necessary. For these reasons the total cost of construction is almost invariably higher than that of a steam-driven plant of the same capacity ; and the annual capital charges for interest and depreciation are correspondingly higher.

Against this may be set the fact that the running costs of such a station are relatively low, as no fuel is involved. The total cost of running does not depend to any appreciable extent on whether the plant is fully or only lightly loaded ; it is practically a fixed sum per annum ; so that the cost *per unit* is practically proportional to the total number of units generated. This is not so with fuel-consuming stations. Every extra unit generated then involves the consumption of a definite amount of fuel with a definite cost ; and

while the total cost rises with the number of units generated and the cost per unit falls somewhat, the latter is by no means proportional to the total units In any particular case therefore the practicability of a hydro-electric scheme depends on the cost of fuel in the locality where the power is wanted.

To take an example, assume a plant of 5,000 kilowatts capacity is required at a certain place where sufficient water power exists within transmission distance. Assume the total cost of the hydro-electric scheme and transmission line to be Rs. 50,00,000. (It might be very much less in favourable circumstances.) Taking interest and depreciation together at 10 per cent. the annual cost on this account will be Rs. 5,00,000.

Let the cost of a steam plant of the same capacity, built where the power is actually needed, be assumed to be Rs. 15,00,000 with similar annual capital charges of Rs. 1,50,000. Now if for simplicity it be assumed that the annual charges for wages, stores, repairs and supervision are the same in both cases (an assumption near enough to the truth) there will be the difference between Rs. 5,00,000 and Rs. 1,50,000 or Rs. 3,50,000 to set off against the cost of fuel for steam raising. Under the ideal conditions of large electro-chemical works this plant, allowing 1,000 kilowatts to be kept for spare and therefore 4,000 for work, would generate about 28 million units (80 per cent. load factor). Under ordinary industrial conditions the output would be less than half this, or say about 12 million units. Clearly therefore not only the cost of coal but also the load factor of the plant (*i.e.*, in non-technical language the ratio of its actual to its possible output) is of immense importance. If it is assumed that the low amount of only 2 lbs. of Indian coal will be required per unit, with modern plant of large size, the consumption would be 25,000 tons for 28 millions and 10,700 tons for 12 million units. As the amount available to make the costs just balance out between steam and water power is Rs. 3,50,000 it follows that with the larger output coal at Rs. 14 per ton would absorb this amount, while with the smaller output the figure would be nearly Rs. 33. From this example

(in which the figures are not meant to represent estimates) it will be inferred that as the load factor rises towards the ideal limit the advantage of hydro-electric power increases. Bearing in mind the vast difference in the cost of fuel in different parts of India, due mainly to railway freight, it will also be seen that the distance from fuel supplies is a very material factor. With coal under Rs. 10 per ton it is doubtful if water power could ever compete unless (rare combination) it existed right on the spot and could be developed exceptionally cheaply. On the other hand, with fuel at over Rs. 30 a ton, water power would generally prove cheaper and, for a well-sustained industrial load, invariably. Between these limits proper estimating would be necessary.

An interesting side light on the above discussion is also worthy of mention. The inexperienced financier is notoriously apt to look at present capital expenditure and neglect to take into consideration future recurring costs; consequently he often accepts the lowest tender to his ultimate detriment. We have assumed above that a steam plant of 5,000 kilowatts total capacity cost Rs. 15,00,000, and requires 2 lbs. of coal per unit. Now on the two total outputs assumed the consumption of coal on this basis is 25,000 and 10,700 tons. Would it pay to accept a tender of Rs. 12,00,000 for cheaper plant of the same output if the fuel consumption were then 2½ instead of 2 lbs.? The extra fuel used would amount to 6,250 and 2,675 tons in the two cases. Now taking 10 per cent on the capital cost saved by accepting the lower tender the annual saving is Rs. 30,000; the extra fuel used, even at Rs. 10 per ton, comes to about Rs. 62,000 with the large output of units and to about Rs. 27,000 with the lower output. Thus with very cheap fuel and a "bad load" it sometimes pays to buy comparatively uneconomical plant; but with expensive fuel and a good load factor *never*. If the cost of fuel assumed were Rs. 15 instead of Rs. 10 the more expensive plant would prove the cheapest on either the large or the small load. Much money has been wasted in India, and much disappointment caused, by the neglect of these principles.

4. PRESENT DEVELOPMENTS IN INDIA.

At the present time, compared with other countries blessed with plentiful water power, India has made very little use of her resources. Switzerland, Norway and the United States realized the value of this potential wealth long ago, and the war has caused the whole question to be reviewed in order still further to utilize it. There is one actual undertaking of moderate size at work in Bombay Presidency, *viz.*, the Tata H. E. P. S. Co. But it must not be forgotten that at the present day there are single generating units of 30,000 kilowatts at work, while the whole of this scheme only amounts at present to 50,000 kilowatts. It is therefore not a very large undertaking, except by comparison with others in India. Two other similar undertakings are projected in Bombay. Over the rest of India there are only two or three fair sized hydro-electric plants and a few small ones for domestic supply. Of the former, that on the Cauvery is the most important, as its output is mainly used for industrial purposes on the Mysore gold fields.

5. THE CHIEF INDUSTRIAL USES OF ELECTRICITY.

Hitherto, in the public mind, electricity has been mainly associated with lighting and fans. These are excellent in their way, and it is grievous to see how little they have been developed in the last 20 years. In the industrial life of a country, however, they can play but a small part, subsidiary to manufacturing industries. Slowly but surely the driving of mills and factories by electricity is coming into play, and there is yet a great extension possible of electric driving. But it is in the use of electricity directly, in the furnace, the arc or the electrolytic cell, that the real future lies. The most important processes are perhaps those for the fixation of atmospheric nitrogen into the nitrates of commerce. Norway was the first country to develop this industry on commercial lines, and now, when nitrates are scarce and freights heavy, and the peaceful demands of agriculture have been superseded by those of war, other countries are hastily making up leeway. The production of aluminium from alumina, of which

bauxite is the most generally used raw material, is perhaps next in importance to the nitrates. The steel industry, again, is being slowly revolutionized by the electric furnace, which introduces economies in the utilization of what has hitherto been regarded as scrap and turns out a finished product superior to that of other and older methods. Amongst other processes of importance are the electrolytic production of the carbides of calcium (for acetylene), etc., and of chlorine (for bleaching and poison gas); the manufacture of phosphorus ; the electrolytic preparation of various rare metals of use alone or as alloys; and the synthesis of carborundum and other abrasives in the electric furnace.

6. POWER FACTOR AND CHEAP UNITS FOR INDUSTRIAL POWER.

In most water power plants hitherto developed the capital cost has been high, and the sale price per unit correspondingly so. If the technical discussion above has been mastered it will be evident that, as the total annual cost is practically a fixed sum, the unit can be sold far cheaper to a consumer who is using all his machinery, etc., throughout the 24 hours than to one who only uses it for 2 hours; in fact, in the ratio of about 12 to 1. This is the reason why consumers always have to pay higher rates for domestic lighting than for industrial power ; it is true whatever the source of power may be, but more so with water power than with steam. The usual selling rates for lighting in India are from 3 to 6 annas a unit; for industrial power from 1 to 2 annas where steam is used and somewhat less where the plant is water operated. Here again an interesting contrast may be drawn between steam and water. No matter how ideal the conditions may be, every unit sold from a steam station costs a definite sum in fuel; and therefore, even though some of the plant may be idle, there is an absolute limit below which sales would result in loss. Paradoxical though it may seem in view of all other commercial transactions, there is practically no such limit in the case of a hydro-electric station. The total working costs are not affected by the generation and sale of additional units. Therefore, when all the load has been obtained that is in sight, at normal tariff

rates—for dividends must be obtained—extra sales at any price will pay so long as they do not involve an increase in the size of the plant. They bring in money without involving any expenditure. This will be more evident if an example, simplified in order to avoid diagrams, is given. Suppose a hydro-electric plant with a working capacity of 4,000 kilowatts actually had this load (or thereabouts) during the whole working day from 6 A.M. till 6 P.M., but that for the remaining 12 hours its average load was only 1,000 kilowatts, the average generating cost of a unit being 0·5 anna under these conditions. If there was no prospect of obtaining work for the idle plant during these night hours on the ordinary tariffs it would pay to take on consumers at 0·3 or 0·2 or even 0·1 anna per unit *provided* they were restricted to the use of power at night only. Of course their additional consumption would bring down the average cost of a unit. If, for instance, night working factories were started using the whole available 3,000 kilowatts the average cost would be reduced from 0·5 to about 0·3 anna. But, as stated, in order to get this extra revenue it would pay to supply this factory at a far lower figure than the reduced average. It is, in fact, constantly done in actual commercial undertakings.

7. Conditions for Economical Industrial Development.

Where electro-chemical industries on a large scale are in question it is essential that the price of the power shall be very low if the manufactured product is to compete with that produced elsewhere. The cost of power is of course only one item amongst many in determining the sale price of the finished article, but it is a very important item—perhaps second only to the freight of the raw material to site and the finished product to market. Where the conditions of the hydraulic development are such that construction on a large scale is reasonably cheap; where the locality is such that the freight of the plant and materials thereto is low; and where the length of transmission to the factory is reasonable; power can probably be delivered at about one-tenth of an anna per unit including all charges. Indeed, if the cost is much higher than this, the

proposition becomes untenable. Obviously the undertaking must be on a fairly large scale to be of any use. The larger the individual units of plant are made the smaller becomes their prime cost per kilowatt and the higher their efficiency. The various electro-chemical industries are favourable to these low costs as they are practically continuous processes, utilizing the whole plant to almost its utmost capacity throughout the year.

8. Freight.

In considering the value of sites that may possibly meet these ideal conditions the first point to consider is undoubtedly that of freight and carriage; for it has a triple application. In the first place the raw material must be brought to the site, unless already on it; secondly the finished product must be taken to its market; thirdly the plant must be delivered at the power house. Cases are known where the carriage of plant over 20 miles of mountain roads cost more than its freight from England to the railway terminus. Cheap power is useless if the saving is swallowed up in expensive freight. Where bulky raw material has to be brought to the factory and sent back finished the obvious course is to build an electric railway from the nearest terminus, seeing that cheap power for working will be available. In order to get the plant to the power house there must be a road, and this road should be built so as to afford a suitable track for the subsequent railway. During the construction period a light line worked by steam will probably pay as against other methods of transport of the plant. The tendency of the man who put his travelling crane up after erecting his plant is often only too apparent in these matters, and carriage by coolie is seldom cheap.

9. Transmission of Power.

From small beginnings electrical transmission of power has now reached the stage where it is possible to have the factory 250 miles or more from the power station, and it would be unwise to say that the limit of high pressure has been reached. In the case of water power from mountainous country there may be insuperable difficulties of ground or cost in laying out a railway to the site, though the plant

can be transported there. Even if these difficulties do not exist, if the raw material of the industry is within the limits of transmission it will probably prove cheaper to erect a long transmission line rather than a railway, which may use more power than will be lost in transmission. It is simply a question of estimating which method gives the cheapest finished product. Either the material can be brought to the power house ; or the power to the factory ; or a combination of both methods may be the best. Mountainous country has one great asset for transmission in that the ridges form nature's own supports for the lines; with comparatively small towers the valleys offer plenty of room for the dip of the wires on long spans. It also follows that by reducing the number of points of support, by the use of long spans, there are fewer points at which damage from lightning can occur. The loss in transmission can be made almost as large or as small as the designer chooses, according to the size of the wires used ; ordinarily about 10 per cent. is allowed. Where steam is used to generate the power the correct loss can be calculated according to Kelvin's law and its modifications, such that the capital charges on the conductors balance the cost of the power lost in them. If more power is required more generating sets can be added indefinitely. With unlimited water power the cost of the lost power is of secondary importance, and larger losses may be advisable than in the former case. On the other hand, if the available power is likely to be all required—and this is generally the case—the line losses may have to be reduced to very low amounts, since every unit available for the factory is of value.

10. Cheap Development.

In large steam-driven plants the capital cost of the power house and plant is a matter which can be forecasted with accuracy, except for the cost of freight and carriage, independently of where the site may happen to be. This cost may be more or less within comparatively small limits, especially according to whether there is a satisfactory water supply for the boilers and for condensation; and this latter point will affect the running costs greatly. On the other

hand, the capital cost of a hydro-electric scheme may vary enormously in different cases. In the first of the three classes of undertaking enumerated in the early part of this article, namely, large heads of water with a small flow, the water has generally to be carried along an open flume for miles in order to reach a point at which the large available drop can be utilized by means of the shortest length of steel pipes. Then a certain amount of storage at this pipe head is essential, in order to guard against the failure of the supply through a break in the flume. Then, again, the steel pipes themselves may be longer or shorter according to the ground. Landslips and bad ground have to be guarded against, tunnels constructed, and other streams bridged. These various conditions involve enormous variations in capital cost, which can only be forecasted by surveys and estimates.

The second class of undertaking, with low or moderate falls and a large volume of water, includes both canal and river developments. Canal falls are for the most part very small, and though the power house and foundations will generally be expensive the rest of the development does not vary greatly in cost. Annual closures, however, militate largely against the use of these falls for industrial purposes other than sub-soil pumping or high level irrigation. River developments, except that they usually do not require storage reservoirs, may vary indefinitely in cost. Difficulty problems are involved in drawing off the water at the head-works and in conveying it to the power station, and the limits of cost may vary almost as much as in the case first considered. Floods and the great variation in the height of the head and tail waters offer further difficult problems.

In the third class of undertaking large storage is the crux of the problem. No matter what the monsoon rainfall may be, unless sound natural reservoir sites exist development is impossible. If dams can be built to impound enough water to run the station through the year, and if the capital cost does not prove so great that steam would be cheaper, well and good. Here the height of the reservoirs above the power station must be as large as possible, for

every extra foot means extra power. On any given head every ton of water behind the dam represents a certain definite quantity of power in horse-power hours (or in units) and in money; and as the quantity of water is limited every extra foot in height means additional revenue. Thus every hundred rupees spent on masonry may provide an amount of power varying both according to the altitude of the dam above the power house and the number of cubic feet of water it stores, depending on the configuration of the ground.

11. Basis of Hydro-Electric Survey.

All these problems require expert investigation. The first stage in such an investigation is to decide what industries are to be undertaken, where the raw materials of the same are to be found, and the power required for them. The next stage, which could be independently examined, is to ascertain the sites where sufficient power is available and capable of development at reasonable cost. It must again be urged that, as the extra large capital involved is merely a set off against fuel, the rent charged for the use of the water in a canal or river should be absolutely nominal ; for passing it through turbines does not prevent its subsequent utilization for irrigation. Thirdly, the practicability of bringing the raw materials and power together must be examined, together with questions of freight and carriage. Finally, although in most cases the result is a foregone conclusion, it must be determined whether coal utilized at the pit's mouth can or cannot compete with water power; and in this connection existing railway facilities evidently play a considerable part.

There is work here not only for the electrical engineer but also for the chemist, the geologist, the metereologist, the irrigation engineer and the water power expert. Conflicting claims are bound to arise, but the ultimate good of India should be the deciding factor.

J. W. MEARES, M.I.C.E.

INDUSTRIAL LABOUR IN BENGAL.

(Paper read at the Economic Conference, 3rd January, 1918.)

I HAVE written this paper while still in the process of making a study of what opens itself up as a bigger and bigger problem—Industrial Labour in Bengal. I must therefore at once admit that I am unqualified at present to lay before you what only the further close investigation of a number of months would make possible. To-day, however, I wish to add my little bit to the discussion of the labour question by referring to certain facts and impressions with regard to jute mills which have been working in my mind as a result of what I have seen and come to know.

Throughout Bengal there are altogether 492 factories—the number being determined not only by the Rules under the Factory Act of 1911, whereby a factory is defined as premises worked by some motive power in which not less than 49 persons are simultaneously employed in any manual labour on any day during the year, but also by the further notification of 25th August 1916, made by the Government of Bengal, whereby all establishments in Calcutta and the districts of 24-Parganas and Howrah wherein not less than 20 persons are, on any one day, simultaneously employed, are to be classed as factories under the Act. Since the issue of this notification 80 factories have been made liable to the conditions of the Act and of inspection. Of these 492 factories 69 are classed as jute mills. When we come to consider, however, the average daily number employed by the different industries, we find that whereas for the 492 factories the number of employees in 1916, was 407,318, for the 69 jute mills the number was 260,339, or 63·9 per cent. of the industrial labour employed throughout the province—a percentage which has been fairly representative of the relative employment in jute mills

to other industries within recent times. For instance in 1912, the numbers, were, respectively, 320,087 and 199,325, the latter representing 62·3 per cent. of the former.

From the predominant place which the jute industry thus holds in Bengal it is interesting to consider its progress within the last 40 years. In 1879-80, the number of looms was 4,946 and of employees 27,494. Ten years later these figures had increased, respectively, to 7,419 and 58,805. In 1895-96, the number of employees had risen to 78,114. In the following year the number jumped up to 91,610. By 1904-05, the number of employees was 133,162. Ten years later it was 230,227—the latest figures show employment in the mills at 260,339. Of this number 191,000 are men, 42,000 women, 24,000 boys between the ages of 9 and 14 and 3,500 girls between the ages of 9 and 14.

In face of this great extension a question arises with regard to the supply of the labour. As old mills have been extended and new mills have been laid down how have they been able to obtain the labour they wish? The first mills were planted in situations where the best supply of local labour was thought to be available and some of these still recruit about 95 per cent., of their labour from local sources. But, later, such suitable sites could not be obtained and labour was attracted to the mills from thickly populated districts in Bihar and the United Provinces—new labour centres being created near Calcutta. It is an interesting fact that little is now done in the way of the direct recruitment of labour. Recruitment is in large measure automatic. The labour just appears and it has appeared in practically sufficient numbers to meet the increased demand. When a new mill is opened there may be a temporary shortage in another mill for many operatives will be attracted to the new mill. No attempt has hitherto been made so to co-ordinate the work of the mills as to discourage the transference of labour from one mill to another. In fact it is often rather encouraged. A manager who was responsible for the starting of a new mill heard that a mill across the river was out on strike and so he sent a sardar with a

launch to get some of the labour. The sardar came back without the labour and was ordered to go back once more. But again he returned alone and to the Manager's question he replied that there was a sahib with a gun, standing on the ghat daring him to come near.

Ordinarily the workers in mills are in constant communication with their friends and relatives up-country and men from the country come to work in the mill in which their relatives are employed. They pay their own fares, borrowing if necessary to do so, and repay the amount by remittances. They frequently bring their families with them, and the boys, though not generally the woman, work in the mills. (Cf. Fremantle: Supply of Labour (1906, pp. 34-35).

At the same time while the supply of factory labour has advanced to meet the greatly increased demand it has never been redundant. Apart from the mills where local Bengali labour is employed most of the labour in the jute mills is immigrant, and it has been common —though evidently not so much so within the last year—for a greater part of such labour that can easily be spared to take a holiday of a month or more during the hot weather. Even the mills which recruit local Bengali labour suffer from a temporary shortage —generally in November and December, when the rice crop is being cut work at which from 6 to 8 annas a day can be earned. One would imagine that the great development in the jute industry would have resulted in substantial increases of wages. The opinion has been expressed to me by more than one manager that the increase has not been great of recent years, but it is clear, at least from the figures of the Department of Statistics, which take no account of changes in working conditions over the period of their record, that more is being earned. From 1890, the rise in the weekly earnings in rupees of carders has been from 1·31 to 2; of rovers from 2 to 3·3; of spinners 2·25 to 3·45; of shifters (children) 75 to 1·76; of winders 2 to 3·6; of beamers 2·5 to 4·07; and of weavers from 4·5 to 5·65. From 1890 the daily earnings of mistries have risen from ·62 to 1·1 and of coolies from ·28 to ·42.

What perhaps, strikes one most forcibly about Industrial Labour in Bengal is its casualness. This fact has been a prominent one in the determining of all legislation and rules regarding it, for the position most frequently taken up is that no legislation can alter the nature and ingrained habits of the workers. You have, for example, the casual manner in which during their working hours the operatives leave their work for odd and uncertain periods. They go into the large mill compound to take food, to smoke, bathe, play, drink water and so on. Such attempts as have been made to stop or to curtail such practices have not been conspicuously successful and ordinarily, a manager, in view of the fact that labour is not over-plentiful, seeks to humour his workers by recognising their customs. Often this casual manner of taking leave makes necessary the maintenance of a labour force greater than is actually necessary to run the machinery. At the same time in some cases extra hands may not be necessary. Where, for example, you have two spinning frames opposite one another and the spinning is running well it may be not only possible but even economical for one man to mind both—thus letting the other go off to do what he likes. In this connection, too, reference may again be made to the long leave which the worker so often takes to visit his country and his home. But managers also regard as part of the nature and habit of the Indian and so to be tolerated, if they are not carried too far, what are distinctly abuses of privilege. In a mill the head babu and under him the three babus and sardars of the different departments have chief control of the labour in regard to appointment, registration, apportionment of work and so on. The worker, however, is ordinarily paid by a European assistant on presentation of a ticket of identification with a record of his work given him by the babu. It is everywhere recognised that the babu makes something out of the labour. Being responsible for the recruitment he can show on the books more hands than are actually in the mill and when pay day comes he can easily induce some worker by a small bribe, to appear twice with different tickets. When things get too bad the

manager or some of the high official connected with the mill will make a raid. The evil is not an easy one to trace, for if a man is to present two tickets he presents the wrong one first—but if things really show much of a leakage the head babu is dismissed. But as one manager said to me—" that doesn't do much good for you get another like him in his place." Although what I have said with regard to such abuses is the result of my inquiries of the last month or two it is interesting to note that in 1912, a Factory Inspector recorded that one of the unforeseen results of the Factory Act of 1911, and the consequent practice of running the labour in shifts, was a large decrease in all mills in wages per ton of production—the decrease being due to the stopping of the illegal gains made by the babus through having imaginary workers on the books, as under the new system each employee had to be provided with a token indicating his shift and his hours of leave.

In general then it may be said that the easiness of discipline in the jute mill with regard to leave and timekeeping is associated with the nature of the operative. Associated with this, too, is the fact that in mills where the Manager has had wide experience and has been for a considerable time in the country a personal relation is established between him and his employees which obviates countless difficulties. As one such manager said to me, " Labour difficulties and strikes are overcome by sympathetic and intelligent treatment." On the other hand many of those who have to deal with the labour take little or no trouble to make themselves acquainted with the language spoken by their employees. The barrier of language prevents personal contact and as it often entails a wider ignorance of the Indian and his ways leads to avoidable misunderstandings. And it is neither healthy nor satisfactory that where a European occupies a position of responsibility in a mill his chief point of contact with the labour under him should be through a babu clerk.

One is further impressed with the idea that, to a large extent, what labour has been in Bengal it is now. One is struck, for instance, by the similarity of the questions raised and the answer given to

different Factory Commissions and other inquiries over a period of nearly 30 years. One would imagine that through association with industrial work and by earning good wages there would have been a progressive rise in the standard of living amongst mill workers. But the fact that so many are still agriculturists at heart (and first of all) is a tendency operating against progress and the rise in the standard of living has, in consequence, not been great. We are referring here particularly to industrial workers and do not ignore the fact that they have participated in such general improvement in the standard of living as has been common throughout India. We can accept Mr. Dutta's statement in his report on the Rise of Prices in India that the average villager lives in a better house and eats better food than did his father, that brass and other metal vessels have taken the place of coarse earthenware, that the clothing of his family in quality and quantity has improved, and that the increase in passenger miles travelled predicates the existence of spare money to pay for railway fares. But yet one would expect that the mill operative in the town would advance beyond his brother in the country. Has anything been done to stimulate advance? Much has certainly been done by the jute mills in providing excellent conditions of work and of life for their operatives. Writing in 1910 Mr. Walsh, the Special Inspector of Factories in Bengal, said that few besides himself were in a position to compare the mills of 1892 in Bengal with those of 1910. The improvement, he writes, are not only in the mills themselves but in the surroundings. He then proceeds to give the following extract from his inspection report of a particular mill: "I inspected this mill on 4th August 1910, for the first time, and it affords me an excellent example of what a mill should be, *viz.*, lofty, well ventilated, and lighted, limewashed and painted throughout with ample space between the various machines. I was equally pleased with the coolie lines. They are far superior to any I have seen in Bengal. *Pucca* drains run alongside each block with a constant stream of water flowing through them, (all the surrounding ground is sloped towards the main drains, with the

result that although I visited the lines immediately after heavy rains there was an entire absence of surface water anywhere); the Muhammadan and Hindu lines are separated with large tanks suitable for bathing and well-kept grass plots between the blocks."

Most mills now provide a certain amount of excellent accommodation for such employees as desire houses. In 1916, such accommodation was reckoned as sufficient for 100,000 persons. The majority of the lines thus built have much to recommend them, being provided with an excellent water-supply, bathing facilities, and sanitary arrangements. One mill, about three years ago—constructed in a village adjoining the mill compound accommodation for over 5,000 people. This village has well-laid roads, *pucca* drains, and a filtered water-supply, also a hospital, school, post office, mosque and Hindu temple, all generously provided by the mill.

Much of this work has been undertaken with the view of attracting and retaining the labour and it does have its influence in this direction, but in so far as no standard of accommodation has been fixed and as most managers do not wish to enforce any standard, on their own authority, in case they might drive away labour, the cubic space allowed per head is very often insufficient. In addition the educative value of such good housing and living conditions is seriously interfered with by the fact that the mill worker who desires to take advantage of them regards himself as a sojourner. The more permanent labour is the local labour, generally living outside the bounds of the mill.

Largely, then, in the first instance to serve their own ends the mills have provided such conditions of work and life—combined with such a rate of pay—as should lead to a distinct rise in the standard of life, and what is equally important in relation to Industrial Labour in Bengal—a rise in the standard of efficiency of the worker. Perhaps such advance will only come when we have a class of factory operatives detached from agriculture and village life—but there is one other direction in which we may look, *viz.*, that of education.

The Factory Commission of 1890 advocated strongly the provision of schools for half-timers. (Cf. Report Section 27 (4) p. 13. The problem was tackled by a few jute mills in Bengal which erected schools. But shortly after their erection the scheme was abandoned owing to the fact that the children for whom the schools were intended never availed themselves of the opportunities afforded. The schools were chiefly attended by the children of the babu and mill clerks and of well-to-do shopkeepers. The situation is said to have changed considerably since then. It is interesting to note that a Committee appointed in 1913 to inquire into the question of the education of factory children (primarily with reference to Bombay) split on the question of compulsory or voluntary education. The Committee consisted of 8 members. The 4 who constituted the minority but who had widest experience of factory conditions wrote: "The great obstacle hitherto in the way is the want of control over the factory children. As soon as they have worked for six hours at a stretch, they are free. The millowners cannot compel them to remain on their premises. Nay worse is that the good object of the Factory Act as to the conservation of the health of the young operative is practically defeated. The economic conditions of their parents are such that they will work for the remaining six hours at other mills under other names and it is next to impossible for the present to stop this practice which is notorious. Parents cannot be blamed, however they may be persuaded. Every parent similarly situated as Indian factory adults are, in any part of the civilised world, would act exactly in the same way. Supplemental income thus drives away the half-timers to work elsewhere. Each shift in our opinion should be allowed to work only three hours at a stretch, both before and after a midday recess. By this simple arrangement there will be an interlude of three hours time, two of which might be well employed in imparting elementary instruction and one in recreation."

In Bengal in the jute mills children do not work six hours at a stretch, but it has been said to me more than once that where two mills

are close together a boy can easily register in both and so make double pay by working about 12 hours a day. However that may be the abuse cannot be extensive and the general situation now seems so favourable that the Chief Inspector of Factories from his experience said recently that he believed that many mill workers would now take advantage of obtaining a free elementary education for their children. What has been done in one instance may be taken as typical of what may be done elsewhere. In a mill compound in which two mills stand a school has been erected by Government for half-timers. The School Management Committee consists, or is to consist, for the scheme is just being started, of the managers of the two mills, the two head babus, and the two chief Muhammadan weaver sardars.

One of the difficulties of education as it was expressed to me by a mill manager is significant of the whole point of view of labour. Once an employee, he said, has tasted the privilege of giving his boy education he wants to make him a babu and a babu is never a manual worker. The son of a Muhammadan mistry qualified for such a position. " To be a babu in a mill means probably to earn Rs. 30 a month and make Rs. 100 or Rs. 200 more. Why can't you put him to an honest trade?" said the manager.

I want to finish by making one suggestion. The Jute industry on the manufacturing side is practically altogether in European hands and it never will be other until the babu can become a manual worker. I believe there is scope for the babu in the mechanics shops from which he may graduate, as he shows himself worthy, to reach an assistantship, thus taking the place of a man imported from Forfarshire. This may come with a more settled industrial population and a healthy system of education that does not force a youth to go too far studying books but encourages him to enter on practical training. I believe that from amongst the children of the workers themselves such babu mechanics might be developed and should such development come they would be a strong factor in the further industrial development of Bengal.

J. C. KYDD.

THE COTTAGE INDUSTRIES OF MALDA.

ALTHOUGH Malda is an agricultural rather than a manufacturing district a number of small scale industries of various descriptions are still carried on in the neighbourhood, most of them, however, are in a dwindling condition at the present time.

The foremost industry of Malda is that devoted to the production of silk. Silk manufacture may be divided into two main branches; first, the reeling of the raw silk from the cocoons in which condition the greater part of it is exported; second, the weaving of silk cloths, a form of manufacture which is now in a very decayed state.

The silk reeling is usually carried on in a large thatched room specially made for the purpose and is not strictly a cottage industry. The room, which is open on all sides, contains in most cases four ghais and two men work at each ghai. The outfit consists of a big earthen basin over a blazing oven in which the cocoons are boiled, and a simple reeling machine upon which the thread is wound. The reeling is entirely performed by hired labourers whose wages range from Rs. 7 to Rs. 8 per month. They generally work from three or four o'clock in the morning until noon and are then free for the rest of the day.

The silk reelers are all landless labourers, but they find no difficulty in obtaining other labouring employment during the slack seasons of silk reeling. The reeling is done entirely by men, no women being engaged in the industry. The reelers are employed by the owners of the mills, or work rooms, who are known as ghaiwalas, of whom there are in Malda alone about two hundred. As each work room usually contains four ghais, each requiring the attention of two men, the number of reelers at work at the busy season in

Malda is one thousand six hundred. The ghaiwala is generally also a landholder and cultivates his holding in the interval between the supervising of his mill. He purchases his cocoons from the local rearers at a normal price of about Rs. 60 per maund for which he usually pays cash. A maund of cocoons will yield on an average about $2\frac{1}{2}$ to $3\frac{1}{4}$ seers of silk thread when reeled. The reeled silk is sold by the ghaiwala to local Marwari merchants. The normal rate for the silk is Rs. 21 per seer. The ghaiwalas deal with the Marwaris on a cash basis and do not usually receive advances from them. The purchases of the Marwaris are for the most part regulated by the orders which they receive from the principal dealers in silk in the larger trading centres. As the ghaiwalas dispose of their silk almost entirely if not wholly to the local Marwaris, who act practically as a combination, the prices obtained by the ghaiwalas vary very little and their profit is generally a small one.

Turning to the other branch of the silk industry, *viz.*, the weaving of silk cloth, the work is entirely carried on by the Tantis or weavers by caste. The Tantis work in their own houses or huts and only in times of pressure do they hire outsiders to help them who then receive monthly wages of from Rs. 15 to Rs. 20. The weavers purchase their raw material from the Marwaris for the most part, although occasionally they may go direct to the ghaiwalas. The reason for their dealing with the Marwaris is that they usually obtain an advance of raw silk which is repaid when the weaving is completed. The normal profit to the weaver for a piece of silk cloth worth Rs. 10 is Rs. 2. Recently, however, in consequence of the war, the price of silk thread has gone up while it is said that the price of silk cloth has not similarly advanced with the result that the profits of the weavers have been considerably reduced. As the raw silk is purchased by the weavers from the *mahajans*, so also the finished cloths are disposed off to them, a necessary consequence of the *dadan* or advance system. Only a few more prosperous weavers engage in direct sale to retailers. It may be remarked in

passing that the trade of the local silk weavers, who are mostly settled at Shibganj, has of late years been considerably damaged as the result of the stoppage of the steamer service which formerly called at Tartipur.

Another small local industry consists of the making of chikon work. This is a fabric woven from a mixture of silk and cotton thread, the warp being silk and the woof cotton. The silk thread is purchased locally and the cotton is obtained from Calcutta. The chikon weavers work in their own houses sometimes employing hired workers to help them at daily wages of from three to four annas. The chikon cloth appears to be very little consumed locally but is exported to considerable distances, the Arabs of Bagdad and Busra seeming to hold it in considerable favour The present price of each piece of chikon cloth is said to be from Rs. 6 to Rs. 12 according to quality, but before the war the price was from Rs. 2-8 to Rs. 6-8. The normal income of a chikon weaver is only from Rs. 8 to Rs. 9 a month.

The silk industry of Malda is now far from flourishing and the ghaiwalas are described as becoming poorer day by day. The principal reason for this would seem to be the high rate of interest charged for capital to equip and run a reeling work-room or mill. Such a mill containing four reeling machines, or ghais, represents the employment of a capital of about a thousand rupees. Part, or all of this capital, is frequently borrowed from the Marwaris at a high rate of interest. The reduction in the demand for silk cloth that has occurred during the war has hit this industry hard.

Next in importance to the silk industry comes the brass industry. This in one of the oldest occupation of the people of the district and is carried on by members of the Kausari or brazier caste. The workshop consists of one of the rooms of the family dwelling, and the work is carried out by members of the family without the assistance of hired labour. The raw material is obtained from local middlemen to whose orders the *lotas*, *gharas*, and *thalas* are produced. The brass workers usually receive from Rs. 13 to Rs. 16 for

every maund of brass work turned out. The war has so reduced the demand for brass articles that the workers in this industry are at the present time greatly depressed. Their raw material has advanced in price fourfold and they do little more than repairing work. A third local industry is that of cotton weaving. The weaving is carried on by the class known as Johlas in their own cottages, the number of looms in each house generally being determined by the number of the adult male members of the household. The female inmates and children give assistance by winding the yarn on the *charkas*. The weavers buy their yarn as a rule from the local market, using thirty to forty count thread for *dhutis* and ten to twenty count thread for *jharans* and *gamchas*. A weaver will usually take from two to three days to weave a cotton cloth ten yards long and if steadily employed can make a profit of about Rs. 15 per month. The weavers sometimes dispose of their cloths to the local *mahajans* from whom they obtain the yarn, but often attend the local fairs with the object of pushing the sale of their goods. Owing to the war, and the consequent rise in the price of yarn, the weavers are suffering considerably from a decline in the demand for their cloths.

Little need be said of the pottery industry. It is one of the oldest occupations of the people of this as of other districts. The potter generally works on a little plot of land in front of his cottage and his stock in trade is extremely small. He pursues his occupation in all seasons of the year except during the rains when it is practically impossible to produce earthenware according to the methods of the Indian potter. The potters generally use a kind of earth called *Authal Mati* which they buy for five or six annas per cart load out of which they make *handis* (pots), *kalsis* (pitchers), as well as dolls and images. Their earnings are usually not more than five or six annas per day and they will make a hundred roughly fashioned dolls six inches in height and three inches in diameter for one rupee. A little paint and chalk in addition to the *mati* constitutes their raw material. At certain seasons of the year the

potters may make a little extra profit by turning out large earthenware idols purchased by the rich people of the neighbourhood on the occasion of the principal Pujas.

In addition to the regular industries that we have noticed there are a few casual occupations by which a certain number of the people supplement their income from time to time. The chief of these are the Salmawalas, who make artificial flowers and figures either from pith or from paper, coloured and sometimes embellished with silver wire. They produce only to order on such occasions as marriage ceremonies or festivals. It is said that the demand for these articles of decoration is declining year by year as the result of a gradual modification in the public taste. When not otherwise employed the Salmawalas usually work in the fields as day labourers.

The only other industry that needs mention is that of the basket makers. The local Domes produce, in their spare, time chiefly, articles made of bamboo. such as Koolas, Duchnees, Chupris. They buy their bamboo locally, and from one rupee's worth of bamboos they will produce articles sold for about Rs. 2-8. They market their wares themselves either by wandering from house to house or by attending the local *hâts* and fairs. When not engaged on bamboo work the Domes devote themselves to the rearing and tending of pigs and are occasionally engaged by municipal authorities to burn or bury the dead bodies of friendless persons. During the mangoe season there is a regular annual emigration of basket makers from Chapra known as Bins who come in groups of ten to twenty and spend their whole time in making the baskets in which the mangoes are packed for market. These men can make about three or four annas per day. As soon as the mangoe season is over the Bins return to their own district.

B. K. NIYOGI.

CURRENT TOPICS.

THE LATE MAJOR JACK, M.C., I.C.S.

By the death on 31st May from wounds received in action in France of Major J. C. Jack Bengal and the world of knowledge and letters have suffered a heavy loss. In his official career he rapidly made his way to the front; as an authority on the complex revenue law of the province and as a student of its agrarian condition he will be remembered by his settlement reports on the districts of Bakarganj and Faridpur. To the humble classes amongst whom and for whom he worked, his boundless charity and his impartial sense of justice are not likely to be forgotten. Those who had the good fortune to be associated with him in his work will ever remember his pleasant strong personality, the enthusiasm, the sympathy and sense of duty, the example of which made his associates consider his work as their own and drew them on in their zeal to reach his goal. Major Jack was a born leader of man. In 1915, when he left for the front, he was reaching that stage in his career when the hard spade work of his earlier years was likely to lead to big results. He was not content to leave things as they were; he was a man of ideas—ideas begotten of hard-earned experience; he was no dreamer, but a born organiser whose one desire was to see his schemes achieved. He had already left his mark on the administration of Bengal; it is idle to surmise what ultimate success he might have gained. He left to those who knew him a knowledge of his schemes and ideas—but knowledge and the power of action are in different planes—the force and enthusiasm of the parent mind must ever be lacking.

As an economist Major Jack sprang suddenly to fame with his book "The Economic Life of a Bengal District." But that work was

not the inspiration of a moment. It was the outcome of eight years of unremitting thought and observation, probably no book has been written on an Indian subject which can lay a juster claim to be the outcome of intelligent experience. Major Jack was by education an historian; he was a student of history, and the fruit of his study he applied to the facts of the life in which he lived. He was not carried away in the whirlpools of economic theory; but he felt (and he felt rightly) that economic fact, if applied on the historical principle, should be rated at a higher value in the theory of administration. Can it be questioned that Major Jack succeeded in his exposition?

This book should not have been the last that Major Jack left to the world of thought. During the years that he had devoted unsparingly to his career, he had collected a vast amount of material which only required the leisure of more peaceful times to be given to the world. The world is the loser by his loss, and, whoever may ultimately give that material to the world, the mind that collected it, the thought that would have inspired it, are gone. It is not merely the loss of a friend that many are left to deplore, but the loss to the world of a man who would have risen high in the realms of knowledge, literature and administration.

THE BENGAL ECONOMIC JOURNAL.

It is with pleasure that the editors have found as the result of the past two years' experience that the Journal has been welcomed by students of economics as filling a definite place in the literature devoted to the subject in India generally, and more particularly in Bengal. It has therefore been decided to take a step forward in two directions which it is hoped will increase its usefulness. In the first place it has been arranged that after the completion of the second volume with the present issue, the Journal will be published four times a year. The fact has been emphasised more than once in these notes that the Journal has for its principal object the publication of the results of original study of those

economic problems which relate to India and to this province in particular. The number of such problems that still present an almost virgin field for research is very great, and once more the editors appeal to those, for whom the study of economics is their chief work, to contribute to the increase of knowledge in the subject by original study, and to make use of the Journal as the medium of the publication of their results.

In the second place it has been decided to make a small payment for the contribution of original articles. It is not pretended that such payment will represent an adequate remuneration but it will at least serve as a slight recognition of the labour devoted to the advance of the subject the chief recompense of which must continue to be the gratification which the work itself affords.

THE BOMBAY ECONOMIC CONFERENCE.

At the economic conference organized last January by the Bengal Economic Association, it was decided that in future the conference should be an annual event to be held in different centres in turn The second conference will take place in Bombay, commencing on the 30th December and will extend over four days. The final programme has not yet been issued, but it is understood that the principal topic for discussion will be agricultural economics, special attention being given to the question of the increase of non-economic holdings. Further particulars regarding the conference may be obtained from Principal Anstey, The Sydenham College of Commerce, Bombay, by whom the conference is being organized.

REVIEWS.

BENGAL DISTRICT GAZETTEERS; MYMENSINGH. BY F. A. SACHSE, I.C.S. 1917.

THE main object of a gazetteer appears to be to collate for the information of the public, in a literary as contrasted with an official style, authoritative accounts of a district,—geographical, historical, fiscal, administrative and economic. Each class of the subject-matter requires to be handled originally by an expert, and to be brought together subsequently by an expert. Capable as members of the Civil Service may be, there are few who claim to be expert in as many subjects as are contained in a gazetteer. The system of production appears to be faulty, and this defect is enhanced by the fact that information contained in gazetteers is accepted by the Courts of Law as evidence, and is not usually put to the same test of truth as ordinary forms of evidence. The fault is not Mr. Sachse's, and the faultiness of the system condemns the Mymensingh Gazetteer no more than those of other districts. A very large mass of information has been collated, to such an extent indeed as to subordinate literary quality to the expression of the quantity of facts. This subordination is not altogether happy; it tends to obscure the fact that a gazetteer is not merely an official blue-book intended for the use of experts, but rather a popular publication. Thus the recital of various sections of the Bengal Tenancy Act on pages 108 and 109 is not self-explanatory and would probably require a reference to the Act by the average expert. There are similarly references, for example, to the Director of Land Records' launch which are hardly of such general interest as to merit a *monumentum aere perennius*. If a gazetteer is to reach a standard that is necessary and not difficult to arrive at, it is essential—

(*a*) that the information under the different heads should be collected by experts on approved principles;

(*b*) that this information should be collated by experts;

(*c*) that the information should be finally produced in literary form.

It is no argument that mere knowledge of a district will enable an official to become an expert on matters widely differing in character—though local

knowledge is of much value for collation; and until the methods of preparation are radically altered, no gazetteer can approach the necessary technical standard of excellence.

Mr. Sachse's experience of revenue administration clearly justifies his claims as a revenue expert; his knowledge of the cultivator similarly enables him to deal with authority on the economic condition of the people, but there are in the gazetteer statements which rouse the suspicion that the facts have not been thoroughly sifted and that history is not entitled to that standard of truth which is claimed for her. There are, for example, discrepancies in the figures of the jute crop; as a discrepancy of 1 maund per acre would on Mr. Sachse's own figures affect the agricultural income of the district by 45 lakhs of rupees or more than five times the total land revenue, the discrepancy is somewhat important. It is also somewhat disconcerting to learn that while the average cultivator possesses from 6 to 10 acres of land (the figures show considerable latitude), still the average family has only from 3 to 4 acres. The different descriptions of the red soil on pages 3 and 48 appear to point to different sources of authority; the latter suggesting the existence of sufficiency of lime in the soil will doubtless surprise the experts of the Agricultural Department. Such examples throw doubt on the value of the statistical figures generally.

Of the 12 pages written about the history of the district the first six have little reference to Mymensingh; it has, however, been the custom to include in gazetteers of specific districts divergent views of the history of Bengal. The subject is difficult and should be left to the historical student. For the account of the Nazims of Bengal in the first half of the 18th century a description of the Naib Nazims of Dacca, who controlled Mymensingh, might have been substituted. Where the Naib Nazim is referred to, the reference is incorrect. Jasarat Khan became Naib Nazim in 1756, not in 1765, nor in the manner suggested. The chapter contains other mistakes of fact. The reference to the Superintendent of Revenue in 1769 evidently is intended for Supravisor. Muhammad Reza Khan ceased to be Naib Dewan in 1772 (not in 1774) when the Company stood forth as *Dewan*; it is further incorrect to state that Middleton succeeded him as Deputy Dewan, as the office was abolished. On page 27 the date of Rennell's survey is given as 1779, on page 110 as 1778; there is, however, incontrovertible evidence to prove that such surveys as were made by Rennell in Mymensingh were completed 12 years earlier.

The chapter on "the people," where Mr. Sachse is able to make use of his local knowledge is of much interest, and shows clearly the difficult environment of character with which the administrator must contend.

The chapter on agriculture forms the basis of any discussion on the economic condition of the district. It appears that 68 per cent. of the

district is cultivated and that cultivation is rapidly increasing. It would have been interesting if the use of the remaining 32 per cent. had been specified in order that an estimate could be made of the area still available for cultivation. A comparison is made with figures of 1872, but the comparison is not of much value, as the figures of 1872 are clearly incorrect. It is not likely that in 45 years the area of river and *bil* should have increased from 230 to 732 square miles. Mr. Sachse's figures appear to indicate that some 500 square miles are still available for cultivation; the figure appears to be high. Of the cultivated area 34 per cent. produces a double crop, the gross acreage of cultivation bearing a smaller proportion to the whole than any other district of the Dacca Division; this is doubtless due to the low incidence of population. A detailed comparison of the figures now available for the whole of the Dacca Division would be of great value. The chapter gives a clear idea of the agricultural wealth of the district.

This chapter is followed by a most interesting account of the economic condition of the agricultural classes in which Mr. Sachse shows his sympathy for the raiyat, explains their improvidence and draws a picture of rural life of the greatest value for economic discussion. Naturally such an account cannot be complete and must be open to comment. The decline of the upper and middle classes is accounted for, but it would be of interest to know the reason for the continued existence of extensive zemindaris in Mymensingh, under the conditions narrated compared with the minute divisions and subinfeudation of property in other districts of the division. The figures of the income and expenditure of two types of families are suggestive and the table showing the rise of prices in periods from 1811 is valuable in explaining the variation in economic conditions.

Mr. Sachse has, however, dealt somewhat brusquely with the problem of indebtedness. The problem has been dealt with in detail by the late Major Jack in his invaluable book on Faridpur and by Mr. Ascoli in his article on the "Economic Condition of the Cultivating Classes in Dacca;" both these authorities based their conclusions on detailed and scientific investigations. It is true that they differed in their conclusions on several points of importance, notably the former maintaining that the greater part of indebtedness was purely temporary, the latter that it was permanent; the actual figures of lack of indebtedness, though worked out by different methods, so nearly tallied, after allowing for peculiar local conditions, that their conclusions cannot be thrown aside without argument. This, however, Mr. Sachse does: and one would have more faith in his negation of the existence of serious debt and in the claim of the *mahajan* to popularity, were the reasoning given in more detail and the facts actually recounted. The weight of experience is against him, and his argument requires justification. The narration of occupations and trades is of great interest and shows only too clearly to

what an extent lack of industrial organisation is robbing the district of vast sources of wealth.

Land Revenue is dealt with in a separate chapter with not altogether happy results, especially in the earlier period. The number of settlements under the Mughal Emperors was certainly more than three, though only three, *viz.*, those of Akbar, Shah Suja and Murshid Quli Khan, were based on the well-known theory of a proportion of the produce. The account of the origin of parganas is not correct and is confused with their subsequent development. The description of Mir Kasim's revenue administration of the Nawara mahals and their resumption is not in accordance with the facts. It would have been preferable if the methods of realising the revenue and the policy of separating *taluks* had been omitted, as Mr. Sachse has referred only to unimportant stages in processes of great complexity. The incidence of revenue and rent, both matters of great importance, are dealt with too briefly to judge the method of computation, but, even allowing for local differences, one is bound to accept the figure of 5 per cent. of the produce as the landlord's present share, calculated on definite figures by the late Major Jack, to the 8 per cent. suggested by Mr. Sachse. There are mistakes of fact in the chapter; the so-called quinquennial papers are not confined to the Bengali years 1200—1202, the most important being filed in 1207 and subsequent years. Sarahaddabandi papers are evidently intended for Chauhaddibandi, and were invariably filed by landlords before 1819 and not by kanungos whom the Decennial Settlement had abolished. On page 118 there is a confusion between the word *huzuri* and *nizamat;* the real antithesis is between *dewani* and *nizamat;* the distinction between *huzuri* and *nizamat* only arises as a subdivision of the *dewani* portion of the administration, the former referring to funds administered by the Company, the latter to the assignments made to the nazim. It should also be noted that the Provincial Councils were created in 1773 and not in 1776.

In the chapter on General Administration, two facts require elucidation; it is asserted that the land revenue decreased from Rs. 11,76,240 in 1821 to Rs. 8,65,135 in 1914. This statement requires explanation; a decrease of 36 per cent. is heavy and *primâ facie* the figures appear to be wrong—though possibly accountable for by the transfer of estates. An explanation is, however, very necessary. The second point is the assertion that excise was the chief source of revenue in Mughal times and in the early days of the Company. This is not in accordance with the information available—the *sayer* or excise duties forming but a small proportion of the total revenue. There is much information of value to be gathered from Mr. Sachse's book, and the criticism applied in this review is intended to show mainly the defective system of compiling gazetteers. In the economic portions of the gazetteer there is a deficiency of material and a failure to show the meaning

of the facts—faults which could only be remedied by an economic expert. In the historical portion there are mistakes of fact which required the criticism of the historian. The criticism is not exhaustive, but the examples quoted are sufficient to show the danger involved in the publication of information which can only hope to obtain a reasonable standard of accuracy by accident. The fault is not peculiar to the book under review, but it probably is peculiar to this particular method of producing books which are presumed to be of a technical and expert nature.

INDIAN CURRENCY AND BANKING.—By M. L. Tannan and K. T. Shah. (Ramchandra Govind and Son, Bombay, pp. 322. Rs. 5.)

There is a distinct need experienced by students of economics in India for a book dealing clearly and comprehensively with the currency and banking systems of the country. The only work of the kind which has been hitherto available is Keynes' "Indian Currency and Finance." Excellent as this is as a discussion of certain important questions bearing upon the Indian monetary system the book is neither sufficiently comprehensive, nor in some cases sufficiently explanatory to meet the need of the elementary economic student. Moreover since the publication of Keynes' book much has happened in the sphere of Indian currency and there is thus need for a work that will bring the study of Indian monetary questions up to date. At present the volume by Messrs. Tannan and Shah is the only attempt to supply the need referred to. Unfortunately the work suffers from certain serious defects which in the opinion of the present reviewer must seriously detract from its merits. If these defects are sufficiently allowed for the book may be recommended as a useful introduction to the subject until such time as a really satisfactory study of Indian monetary problems is available.

The book is divided into two parts. The first is devoted to the subject of Indian currency, the second to that of Indian banking.

The section concerned with Currency opens with a brief history of Indian coinage which calls for no special comment. There follows a chapter dealing with the general principles of currency which would appear to be out of place in a work of this kind. The book is not a general treatise on the theory of money, but a descriptive and analytical study of the Indian currency system in particular. The space afforded to the treatment of the general principles of money is necessarily scanty and the student will be compelled to turn to other sources for his reading in this connection. Moreover the discussion appears to be marred by some curious misconceptions. Thus the authors blame economists generally for treating the subject of money as of comparatively small importance. The enormous literature devoted to the discussion of monetary questions on the part of economists is surely disproof of the notion

that they have under-estimated the importance of money as an economic instrument.

It is also difficult to understand why the authors suppose that the use of money is responsible for the existence of interest. On page 42 it is remarked "while the owners of other forms of wealth must work themselves to produce new wealth, the owners of money by simply loaning out their wealth can derive a comfortable income and go on adding to their wealth without straining themselves in the least for it." The introduction of money as an instrument of exchange is thus made responsible for the existence of a class in society who live without work on the proceeds of interest. But it need hardly be pointed out that it is possible to lend in kind and to receive interest in kind even in a community which is innocent of money.

The succeeding chapter deals with the really important part of the subject which treats of the development of the Indian currency system from the closing of the mint in 1893 down to the outbreak of War. The events of this period of Indian monetary history are unfortunately not presented with that clearness necessary to enable the student to understand how the present situation has really arisen. The authors quote the recommendations of the Fowler Committee which favoured the introduction of a gold standard and a gold currency, a policy with which they are clearly in agreement, and then give a brief account of the development of the gold exchange standard which has in fact come into existence in the interval. The essence of the gold exchange standard consists in the use as internal currency of a token coinage which can be exchanged, at approximately constant rates, into gold for purposes of international payments. Considerations of economy and convenience have led to the appearance of a mechanism by means of which this exchange of internal into international currency, and *vice versâ*, is affected, consisting primarily of bills enabling foreign holders of gold to obtain command over rupees in India and of bills enabling holders of rupees in India to obtain command of gold abroad. The questions of detail arising in the course of the years between 1908—1914 when this mechanism was being worked out have mostly turned upon the two issues;—first, how should the silver required in India be held, or obtained; and, second, how and where should the gold required for foreign payments be kept. Thus the practical difference between the gold exchange standard and the gold currency and standard recommended by the Fowler Commission chiefly consists in this, *viz.*, that while under the latter system gold might or might not form a larger element in the internal circulating medium of the country, and while the great bulk of international payments would be discharged by means of bills, the balances of international indebtedness between India and other countries would be settled by the ebb and flow of gold from the banking reserves. Thus,

supposing that under either system the silver token currency remained the principal internal circulating medium, the chief practical difference resulting from the gold exchange standard is that the actual movement of gold is largely obviated and the attendant expense avoided. Further, while with an open mint for gold in India and the existence of a gold standard the maintenance of a stable exchange value for the rupee would depend upon the free convertibility of rupees into sovereigns at the Indian Government treasuries, under present conditions the maintenance of the stable exchange depends upon the readiness of Government to sell silver bills for gold, or gold bills for silver, under certain restricted conditions.

In the final analysis the difference between the two systems does not seem to be so very great, but the gold exchange standard has enabled the Government until the outbreak of War to undertake a practical responsibility for the maintenance of a stable exchange while at the same time limiting in some respects its obligations to exchange rupees for gold on demand. Thus, assuming that the State takes the responsibility of maintaining the stable exchange value of the rupee in terms of gold, the principal question upon which the respective merits of the gold exchange standard and the simple gold standard depend is whether the liability of the State to give gold in exchange for rupees would be greater under the one system than under the other. Further, the advocates of the gold standard must show that the economies resulting from the gold exchange system would not be sacrificed, or would at least be counterbalanced by other greater advantages. Thus the central question may be restated thus. In a country which finds it convenient to use for purposes of internal exchange a large volume of token currency, how can it best ensure that it can provide an amount of international currency sufficient to liquidate its obligations and maintain its exchange under conditions that are reasonably likely to occur. The answer to this question very largely depends upon two considerations.

(1) The probable extent of the demand upon the country in question for international money at a time of pressure, together with the means at its disposal of obtaining command over international currency at such a time.

(2) The disposal of its reserves of international currency in such a way as to enable the greatest influence to be exerted so as to bring into operation the compensatory action of the exchanges.

It is commonly said that the gold exchange standard is peculiarly suitable to debtor countries. The reason, of course, is that in times of all-round contraction of credit and monetary pressure debtor countries are exposed to the risk of being called upon to liquidate their liabilities in international money. The reserves upon which the convertibility of the internal currency depends will be thus exposed to excessive strain and possible depletion,

Hence it becomes advisable to adopt special precautions to maintain adequate reserves of international money in a form in which they will be protected against attempts to draw upon them for other purposes.

The advocates of a gold standard and a gold currency seem to suppose that the presence of a large quantity of international currency acting as the internal circulating medium of the country constitutes a form of reserve which may become available at such times. Here, however, experience seems to be against them. If India possessed an open mint for gold while a token rupee continued to be the principal internal circulating medium which could be exchanged for gold at a fixed rate on demand it would be necessary if the State undertook the responsibility for the maintenance of a stable exchange to keep adequate reserves to meet the demands that would arise in times of international pressure or of a particular adverse balance of indebtedness. There are reasons particularly applicable to India why the liability under the system of a gold standard would be greater than under a system of a gold exchange standard. But speaking broadly the question whether the international money required to liquidate an adverse balance due by India is best provided by means of an offer of the State to provide bills payable in gold in London in exchange for rupees delivered in India is not fundamentally different from the liability to provide gold for export in India in exchange for rupees delivered to the Indian treasury. The relative advantage of the two systems therefore largely resolves itself into the consideration, first of the possible advantage of a gold currency in India as an internal medium of exchange, and, second, the relative advantages of holding the principal gold reserves in India or in London. Even if it can be shown that India is not a debtor country and is therefore not exposed to the special dangers of a debtor country in times of monetary stringency it still in no way follows that it would be to the advantage of India to have gold largely in circulation or to have her gold reserves chiefly maintained in this country. The discussion of this aspect of the question in the volume under review appears to be open to serious criticism.

The authors insist that India is very unlikely to be subject to a gold drain because in the majority of years the balance of imports and exports is in her favour, resulting in a normal inflow of the precious metals. But the fact is entirely overlooked that in the case of India this normal inflow of gold and silver does not take place in such a way as to strengthen the banking reserves of the country. There is a normal drain of the precious metals to India because large numbers of people are ready to exchange other commodities for gold for purposes of hoarding or use as ornament. When the hour of danger arrives the country will not necessarily be better able to withstand it by reason of these normal imports of precious metals. Again,

India is a debtor country in the sense that her loans are largely held abroad, the capital invested in her industry is also largely owned abroad, while India herself owns little foreign capital. Thus in time of crisis it will not be possible to restrain the outflow of foreign capital or to call in Indian capital invested abroad. At such a time the only resource is for India to possess reserves of international money which will enable her to meet her liabilities. Under the present system reserves are gradually being built up to a level at which the danger of a gold drain is sufficiently provided for. As everyone knows the real difficulty of the war period has arisen because the rupee has ceased to be a token coin while it is an essential condition of the working of the gold exchange standard that it should remain so.

The authors, however, depend in their advocacy of a gold standard and currency not upon an attempt to show that such a currency would have enabled India to avoid the difficulties due to the rising price of silver but upon arguments which were carefully examined by the Chamberlain Commission and shown to have very small validity.

In the first place they suppose that a gold standard and currency would do away with the necessity for "the constant watching and managing of the currency system." This argument seems to be fundamentally unsound. It is true that at present it is necessary carefully to watch the relation between income and expenditure and the movement of trade so as to ensure that the reserves are maintained at a level of safety. But it would be equally necessary to exercise the same care if the country possessed a gold currency.

Again, the authors maintain that a gold standard and currency would secure a greater stability of prices on the ground that the larger use of gold in India would help to offset the depreciation in the value of gold resulting from the greater output from the mines. But the previous history of gold prices and the present conditions of gold production afford no grounds for supposing that the depreciation of gold will continue indefinitely and if a more stable level of gold prices is ever to be attained it will probably be brought about not by leaving world prices to depend upon the cost of production of gold, regarded as a commodity produced under normal competitive conditions, but by some general control of gold production so as to maintain a stable standard of value. Again, the authors emphasise the advantage which would follow from a gold currency on account of the fact that the Indian monetary reserves would then be held in India. This again seems to rest largely upon a misconception. It by no means follows that a larger portion of India's reserves could be safely and economically held in India with a gold standard and currency than under the present system of the gold exchange standard. Other countries situated similarly to India, Japan for example, find it expedient to hold large gold resources in the chief monetary settling place for international payments. The great point which the

authors fail sufficiently to consider is that if India reduced silver to the position of a limited legal tender with the idea of making a gold coin the principal medium of internal exchange the country would be saddled with a form of money which would be far more costly than is necessary, thus involving a huge waste of resources. With the present price of silver the same argument applies to the continued use of the rupee in its present form. In order that India may possess an efficient and economical currency it is desirable either that notes should become a practically universal form of internal money, or that, supposing the price of silver to be maintained, the rupee should be recoined so as largely to cheapen the cost of the silver currency to the country.

C. J. HAMILTON.

EARLY REVENUE HISTORY OF BENGAL.—By F. D. Ascoli, I.C.S. (Clarendon Press, pp. 272.)

The economic history of India may be said to centre in the history of the land revenue system, and the material for the study of the land revenue system may be said to have its foundation in the Fifth Report. So important is the study of the Fifth Report to those wishing to make themselves familiar with the conditions from which the present Indian land system has developed that a transcript of the report in the present convenient form should be welcomed by all students of Indian affairs. The report itself, however, is in a large measure the record of an acute controversy both as to matters of fact and as to questions of policy. The two chief matters of fact then at issue were on the one hand the question of rights in the land and on the other hand the determination of the tax burden which might be justly imposed upon the land. The two great parties to this controversy were Grant and Shore, the former maintaining that the zemindars possessed no sound title to the position of hereditary land proprietors and further arguing that in point of fact the zemindars were contributing less than the proper amount to the revenues of the State. The latter, if not clearly asserting that the zemindars were the hereditary proprietors of the soil, at least desired to recognize them as such, and further believed that the then existing revenue collection should be made the broad basis of a future long term settlement.

A subsequent controversy between Shaw and Cornwallis arose over the question of policy, *viz.*, whether or no the settlement should at once declared permanent. Mr. Ascoli does considerable service by analysing the arguments raised in the course of these controversies in a way which greatly helps the student to understand them and to appraise the validity of the conclusions which were ultimately reached.

A full understanding of the land system as it existed in Bengal at the time of the Permanent Settlement requires a knowledge of its history and a familiarity with the conditions of different parts of the province which cannot be obtained from a study of the Fifth Report alone. Here again Mr. Ascoli offers some help to the student in his brief historical account of the development of the land revenue system from the time of Akbar onwards. Mr. Ascoli's little book may be warmly recommended to those who are content with the text of the report together with a short and clear introduction to the main questions under discussion. Mr. Ascoli may be included among those who in the light of subsequent history views the Permanent Settlement as a mistake, but curiously enough he does not include in his suggested criticism the most obvious reason for regarding the Permanent Settlement as a error, *viz.*, the fact of its permanence. It has placed a serious obstacle in the way of a uniform and just tax system for India as a whole.

ENGLAND AND INDIA—(Longmans Green and Co., pp. 351.)

This little book which is published in cheap form so as to be within reach of as wide a public as possible is an attempt to set forth the main facts relative to the social and material progress of the people of India under British e. The author profoundly believes that while "the British came to India for their own profit they have stopped to be a blessing to the Indian people." He does not confine his attention to a review of the material progress alone of the country under British dominion, at the same time a large part of the ook is devoted to the task of showing how greatly the material well-being f India has improved in the course of the last century and this improvement s traced in the main to the measures adopted by the British administration r the good government of the country and the development of its resources. Incidentally the author touches upon a number of controversial questions ch as the effect of the land revenue administration, famine relief, the drain, d the government policy in relation to industry. Where so much ground covered in so short a space it is only natural that the treatment of many pics should be somewhat superficial and even one-sided. Some of the tements contained in the book are taken from authors not always [illegible] reliable. At the same time while admitting that the main purpose [illegible] is one-sided and consists in offering a corrective to the many [illegible]e-sided criticisms levelled against the conduct of the English in [illegible]y be said with complete justice that there are very few statements in the book which cannot be substantiated by reference [illegible] itative documents.

REVIEW OF IRRIGATION IN INDIA, 1916-17.

The Public Works Department must be heartily congratulated on their annual report upon irrigation recently published. For the first time the report presents a picture of the irrigation work undertaken by Government in the different provinces, in a form which enables the reader to grasp not only the bare statistical results of the various undertakings, but to appreciate from the excellent illustrations included in the report something of the stupendous character of the structures involved in the larger productive works. A bare idea of the value of the irrigation works of India to the agricultural population can be gained from the fact, that out of a hundred and ninety-seven million acres cropped duuring the year 1916-17, twenty-six million acres or thirteen per cent. of the total cropped area were irrigated by Government works, while the estimated value of the crops so irrigate in a single year exceeded by more than twenty-five per cent. the total capital outlay expended on these works. Great as have been the results already achieved, much yet remains to be done. As the result of the recommendations of the Irrigation Commission of 1903 investigations were undertaken which led to the planning of the Kistna and the Cauvery schemes, involving together an outlay of over twelve crores of rupees. Both these schemes afford prospects of being financially successful, and when completed would together irrigate many thousands of acres.

In the Bombay Deccan the Godavari, Bravara and Nira right bank canals are in course of construction, the last of which alone, when completed, will irrigate something like two hundred thousand acres, while in Sindh, the Sukkur Barrage project is under special investigation. In the United Provinces a number of protective works badly needed in their respective districts are under consideration, and await only the allotment of the necessary funds. The War has had the effect of reducing the construction of irrigation works to a very considerable extent. The capital outlay for 1916-17 upon productive and protective works was a hundred and twenty-four lakhs of rupees, the smallest sum in any year since 1905-06, and less than half the normal outlay of the years immediately preceding the War. There is thus considerable leeway to make up, and the next few years should witness a renewed activity in the construction of irrigation works upon which the preservation of so many areas from the worst results of famine chiefly depends.